

MIKE MENTZER HEAVY DUTY II: MIND AND BODY

Copyright © 2002 by Mentzer-Sharkey Enterprises, Inc. Metzer-Sharkey Enterprises, Inc. Redondo Beach, CA 90277-8710 Copyright © 1996 by Mike Mentzer ALL RIGHTS RESERVED.

No part of this publication may be reproduced or transmitted in any form or by any means, electronic or mechanical, including photocopying, recording or any information storage and retrieval system, without the written permission of the copyright owner. This book or any part of it may not be translated into any other language without the written permission of the copied owner. Requests for permission or additional information should be directed to: Permits Mentzer-Sharkey Enterprises, Inc. PMB # 706 - PO Box 7000 Redondo Beach, CA 90277-8710 Printed in the United States of America. This publication is designed to provide accurate and authoritative information on the subject matter. It is sold with the understanding that neither the publisher nor the copyright owner is engaged in providing medical advice or services. Before beginning this or any exercise and nutrition program, consult with Your physician and get a complete checkup. TABLE OF CONTENTS Preface JC / I Introduction ix I The mind: review your premises 13 II Nature, to be commanded, must be obeyed 33 III Another type of definition 49 IV Balance of the theoretical account 59 V Practice 81 VI Attending the needs of the growth mechanism 135 VII Anyone or 147 PREFACE In loving memory of Mike Mentzer (1951 - 2001) Mike Mentzer was proud of this HEAVY DUTY II: Mind and Body © publication, because he felt it revealed a complete explanation of the philosophy Principles crucial to a deep understanding of the science of bodybuilding. Originally published in 1996, it remains a favorite of most Mentzer fans and Supporters and is considered their "magnum opus". Inside this classic book, Mike reveals his greatest advances in the evolution of HEAVY DUTY™ high intensity training, through which he has introduced tens of thousands to the importance of the mind / body connection and has inspired them to study philosophy for a better understanding of how such knowledge is achieved. He said: "Philosophy literally means love of knowledge." Mike believed that knowledge is a necessary "tool" to achieve whatever desires in life,

"It is only in the context of having properly developed your mind that you will be able to truly enjoy the achievement of your material values, including that of a more muscular body." - Mike Mentzer

Always ahead of the times, and despite opposition and ridicule, Mike set out to make a difference by teaching bodybuilders that they need to reach a higher intellectual level, not to go through life blindly following what others say, but to use rational thinking and logic to become independent thinkers. Mike successfully conveyed this message, and almost a decade later, Mentzer's fans and supporters continue to report that *HEAVY DUTY II: Mind and Body* completely changed his progress in bodybuilding, their careers and relationships. This is a testament to the value and importance of Mike Mentzer's incredible work, which has stood up against all opposition and has been undeniable. It stood the test of time. It is both an honor and a privilege for me to keep *The HEAVY DUTY II: Mind and Body* book available to those who have not. I previously had the opportunity to benefit from the wisdom of Mike Mentzer.

Joanne Sharkey, CEO / President
Mentzer-Sharkey Enterprises, Inc. Copyrights 2002 - 2005 © - All rights reserved. Visit Mike Mentzer's official website at www.Mikementzer.com.

VIII Introduction This book represents a final attempt on my part to fully clarify the fundamentals. Bodybuilding Science Matters. Much more than in any of my previous ones. writings, This book uses a very broad philosophical-scientific context within which to present my views on the subject of high intensity, anaerobic exercise / stress. physiology. In fact, the philosophical context of this book is not merely broad, but complete, that is, it includes all the relevant philosophical principles required to achieve an understanding of any science, at least in terms of broad foundations. For many, some of the terms or Concepts will be new to the extent that they are used in the proper intellectual way: for example, philosophy, reason, logic, principle, theory, identity, nature, causality, rational, cognition, volition, and exclusive to Bodybuilding Books: Ethics, morality and critical judgment. An intellectual signature. Understanding these philosophical concepts is a precondition not merely for understanding science, but all the fundamental questions of human life. UNA The fundamental theme is one that belongs to all members of the species man; an inescapable aspect of human existence. This book will help anyone with a sincere intellectual interest in the subject to gain a firm understanding of all the basic and primary elements of bodybuilding exercise. science. In this book, I delve into the fundamental principles explained in my last book, *Heavy Homework*. I did it using new perspectives to help clear up any possible confusion, as well as to provide the reader with a broader view and a deeper understanding of the theoretical principles. And something new:

understanding what is crucial for those seeking to truly master the science exercise - or any context of knowledge. The material in this book is derived from personal observations of my training clients' workouts, as well as my clearer

Page 3

IX Understanding and more meticulous application of the laws of logic from writing. HEAVY DUTY three years ago, I have made some exciting discoveries, reached surprising new conclusions, and drew a wider range of inferences that will delight readers of my previous work, and possibly the new reader's intellectual appetite. The last three years of my life have been a rich, joyous and rewarding Journey of scientific-philosophical discovery - the results of which I would like to share with the like-minded. One of the most illuminating findings was the result of having seen some of the deeper implications related to the fact that the science of bodybuilding is actually the Science of anaerobic, high intensity, exercise / stress physiology. Largely, The physiology of exercise is the physiology of stress. The theory of the physiology of stress was developed several years ago by a brilliant medical researcher, Dr. Hans Selye. Dr. Selye's achievement, which has been widely acclaimed throughout the field of medical science, has increased a medical specialist's understanding of human physiology considerably. Another important finding was that exercise science flows from medical science; in fact, it must be properly considered as a branch of medical science. Knowing this can help many overcome their confusion on the subject of exercise, and therefore how best to proceed with their training efforts. Why name this book MIND AND BODY? Because that's what this book is about. Man is an integrated unit of consciousness and matter, of mind and body. He is not a disembodied soul or a mindless body. The dominant philosophy of Western civilization is suffering amid a deadly intellectual gap, known as the mind-body dichotomy. So serious is this condition, it is responsible for the continuing decline of our glorious culture. Specifically, such decay is the inescapable result of excessive concentration on physical / material values, almost to the exclusion of one's own intellectual values, which enhance life. Each living species must follow a specific course of action to survive, and its course of action is dictated by its nature. The required course of action for humans. Survival is first and foremost intellectual. (Human survival involves more than mere physical survival, and even here many are unsuccessful.) The mind of man, like his body and everything that exists, has a nature. Religious Mystical philosophy has been an obstacle to the future development of humanity. Due to its ethical restrictions in the area of reasoning

human, insisting on his opposite to faith. Most human beings have never given the slightest consideration to the fact that the mind must be used in a specific way, dictated by its identity, if it is to obtain a valid knowledge of reality, including an exercise production theory. Many consider the human being, especially the mind, as something outside the rest of nature, as supernatural, or even subnatural. And to that precise measure, the intellectual-moral development of man has been severely arrested. When I explained to one of my clients recently - an intelligent young man with a keen interest in philosophy - the fact that ethical knowledge and thinking have a nature (or structure) that could be fully and accurately identified, reacted as I did in the first learning of this. Possessing a strong moral "sense of life," this individual has been actively seeking an ethical, non-religious, and scientific philosophy of life - the only kind to provide man with the knowledge required to attain morality. perfection. Understanding the enormous implications of my statement, he was startled, and howled with joy. Like all Objectivists, we seek not only to achieve and howled with joy. Like all Objectivists, we seek not only to achieve and howled with joy. Like all Objectivists, we seek not only to achieve

Page 4

Our personal and material values and goals, but also the desire to achieve intellectual-moral perfection - and an ideal society. An ideal society is one in which the preponderance of citizens are intellectually independent, and put an end to an overbearing, paternalistic, and statist government. XI 'F. ■ .: * I ;: .. HJ The sequence of chapter themes in this book follows the logical structure of Philosophy itself, with the material in the first six chapters flowing from the two basic Branches - metaphysics and epistemology; which identify the fundamental nature of man and existence, including its means of knowledge, Chapter One, in fact, refers to the role of thought in mature adult life - and is entitled, THE MIND: CHECK YOUR PREMISES; while Chapter Two explains that logic is the specific method required to acquire knowledge of reality. Chapters three to six. Demonstrate how I used logic to refine high intensity training theory. The subject of the final chapter deals with the third branch of philosophy: ethics. In chapter seven, I critically assess the moral state of the field of bodybuilding. based on Ayn Rand's statement that "Nothing man-made should be accepted uncritically." And that the proper ethical and operational precept is not "do not judge," but is instead, "judge, and be prepared to be judged. " Only in this way can an individual or a culture preserve a rational, moral, that is, life-enhancing course. For those for whom the philosophy is new, and possibly terrifying, I suggest persist in reading this book until you gain a firm understanding. Where concepts are new, see the

dictionary and 'spiral' with them, that is, connect them to other related ideas and experiences that you already have in the storage of your Area mind, the subconscious. Eventually, you will find what is a pleasant surprise once. You have grasped its precise meaning. And, if you continue the study of Philosophy, you will mature as a rational adult until, finally, you have achieved The purpose of such study: a comprehensive understanding and vision of existence. It is only in the context of having properly developed your mind that you can truly enjoy the achievement of your material values, including that of a more muscular body. THE MIND: CHECK YOUR PREMISES yo 13 xu * 14 Heavy Duty II THE MIND: CHECK YOUR PREMISES 15 "Set reason firmly in your seat and call your court every fact, every opinion. He boldly questions even the existence of a god; because, even if there is One, it must approve more the homage of reason, than that of the blindfold. fear. "Thomas Jefferson, third president of the United States, and a philosopher." Independence is the recognition of the fact that yours is the responsibility of the judgment and nothing can help you escape, that no substitute can make your

Page 5

the individuals with whom I have spoken or observed firsthand are helplessly bewildered, literally almost paralyzed by self-doubt; which, in this context, is characterized by a continuous inability to reach a company Conclusion on how to proceed with their training. This is the result of their ignorance of the nature and value of fundamental principles, and the role they play in guiding thought as well as their training. As rewarding as one might imagine upgrading their muscle potential, many bodybuilders are apparently missing out on a more crucial and fundamental issue: the importance of reaching full human stature by learning to think and judge independently. There is nothing wrong with having a physique. muscular, but it is by no means a viable substitute for a mature and rational mind. (The probability that an individual will achieve his goals increases as his knowledge and ability to reason increase.)

member of the Man species, biologically distinguishable trait - your means of survival - is your mind; therefore, there is nothing that can be more rewarding than "knowing", that is, having a concept understanding of reality (including your own inner life) appropriate for an adult human being. As with most others in our culture, the vast majority of bodybuilders have not been taught to be intellectually self-sufficient, that is, to think rationally and critically judge for 1} sixteen Heavy Duty II themselves. Instead, they were instructed to have "faith," which is the antithesis of reason; It is the blind acceptance of ideas for which there is no sensory evidence. or rational proof. They were also taught to "not judge", or the secular version, to keep an open mind. " The idea that one should not judge, or that one should keep an open mind, is very dangerous; Used to keep people confused by. To suggest that it is a virtue to grant plausibility to anything. Obviously, not everything. it may be true. Instead, one should cultivate an "active mind", one that deals with ideas. critically, seeking to distinguish truth from falsehood. The inevitable result of accepting false notions without bitterness is the reduction of one's intellectual range and ability to successfully face reality. In conversations with my clients in telephone consultations and clients in the gym, as well as with others (non-bodybuilders), I have observed that in many cases the individual has achieved considerable particularized efficacy, that is, a vast body of specialist knowledge and great ability to use reason in their chosen field of endeavor, be it medicine, law, plumbing, etc. However, few achieve much in the sense of metaphysical, or pervasive, efficacy - which is one's ability to deal with the rest of reality, be it

Page 6

in the area of relationships, the ability to critically analyze ideas in other fields, or correctly judge others. (Most notable was a neurosurgeon who rejected my theoretical approach to bodybuilding, which is based on the medical principles of human physiology, because his personal trainer, who couldn't even spell neurosurgery or physiology, didn't like it!) oceanic proliferation of new "theories" about exercise, the average bodybuilder can't even begin to properly judge or evaluate the flood of contradictory, contradictory information. Your thinking is severely hampered, limited to endless discussions of relatively unimportant details, such as whether to twist your little finger up or down when doing dumbbell laterals; it's a wide grip better than a narrow grip; is four sets of five exercises better than five sets of four exercises THE MIND: CHECK YOUR LOCALS 17 is is two days off and one day off better than one day off and two days off; or are

Better than full-range partial representations? These people are not only losing the forest for the trees, but because of their narrow intellectual intelligence. The focus often has them mesmerized by a tiny flea on the bark of a single tree. The details mentioned above are not totally regardless; they are actually details points, or derivatives, that only have relevance in the context of having the fundamentals first understood and applied. What is the difference, for example, if a bodybuilder performs four sets of five exercises or five sets of four exercises, if he has not grasped the fundamental foundation of the science of bodybuilding. the fact that high intensity training stress, i.e. training to points of momentary muscle failure, is an absolute requirement, target to induce growth. Stimulation, and therefore none of its sets is activating the growth mechanism. moving? Or, you are not aware of the crucial importance of accurately regulating both the volume and frequency of your workouts because the body is strictly limited in its ability to tolerate the "wear and tear" of high intensity training. You stress, you unknowingly become so over-trained that even if you were stimulating any growth, the excessive advance made in your resilience would do so. You avoid the possibility of your body producing any growth. The New Tyranny: Truth by Consensus Bodybuilders whose thinking is thus restricted often resort to a kind of "Russian" roulette, " where they move with anxiety and uncertainty from one training theory to the next, hoping or wishing that someday they will luckily find something that works. Or having sacrificed individual judgment and personal sovereignty. completely, fearing that he - and he alone - suffers from a nameless deficiency, many opt for 18 PUBLIC WORK | | conform to the "herd", and blindly follow the other sheep by adopting the training program that has the most adherents in your gym. Little does he suspect that the others are doing precisely the same thing. Like him, they think that others should know what they are doing; after all, how can the majority be wrong? (In fact, the The whole world may be wrong, and a man right. You may remember from my last book, I pointed out that, whereas for thousands of years millions of people believed that the earth was flat, so they did not.) In logic, this is known as the announcement of the verecundum fallacy, or the "appeal to reverence"; Specifically, reverence for opinions.

Page 7

of others. In no case does the individual logically understand why he is doing what he is doing. (No matter how big the muscles are, an inner life dominated by chronic doubt and uncertainty are incompatible with confidence, self-esteem, and happiness.) This phenomenon is

system was John Dewey, better known as the father of progressive education. The goal of education, according to Dewey, was not to teach children how to

- of course! - It is that he becomes dependent, and will passively conform to any Führer. blatantly strong enough to get his attention. In effect, the result is: "Who am I to think or judge? If it is good enough for the Führer, it is good enough for me." What is the value of possessing muscles that would give credit to an adult gorilla? Is the individual intellectually arrested at the level of a dependent child? Just a few months ago in Flex magazine, a very young bodybuilder, whose rapid, stellar rise to the top of professional development has garnered him. Considerable attention in the bodybuilding press was quoted in bold, "If 20 sets per bodypart was good enough for Arnold, it's good enough for me." When someone asks:

"Who am I to judge?" You really have to ask yourself. Your "I", your "I" is your mind, that is, your concepts, ideas, beliefs; in short, your Philosophy: what determines the extent of your ability to think and judge. When a person has renounced his judgment, postponing that 20

Page 8

PUBLIC WORKS | | Responsibility to others, in effect, he has sacrificed his SP if and ends up literally "Disinterested", suffering an identity crisis. Think Twice Arthur Jones once described a very muscular bodybuilder of my known as "a boy in a gorilla suit". The motive for Mr. Jones's statement was not to maliciously derogate from the bodybuilder's character, but to underline the glaring disparity between his muscle size and his intellectual. growth. And his sub-standard intellect was not the result of a flawed or deficient brain. No, he was intellectually self-arrested. This individual had apparently decided, since his teens, that his knowledge was sufficient. The result was manifested in his inarticulate emotionality, an inability to explain anything at all about the principles of scientific exercise, or write even a paragraph on the subject, and a profound lack of self-confidence outside of the gym. Of course, not all bodybuilders choose to stop their mental growth by refusing to integrate knowledge, acquire conscious convictions and gain intellectuality. certainty. Those who do will inevitably suffer the consequences. Having rejected your means of survival, you will live like cows, physically abject, tortured by ceaseless chronic Doubt: strangers and fearful in a world that never has. "Those of you who have not abandoned your mind, who are heroically striving for intellectual efficacy and philosophy of rational life, they will find Encouragement in what you are going to read. The fight is not only yours, nor is it limited to bodybuilders. The problem you are having with your emotions, and in gaining complete independent control of your thought processes, is not due to some "fatal flaw" in Shakespeare or an idiosyncratic deficit in the makeup of your brain. You are, in part, a victim. THE MIND: CHECK YOUR LOCALS 21 from a culture that is intellectually morally bankrupt; a culture that has rejected Reason, logic, science, morality, justice and freedom. Our culture has been undermined and depleted by those whose job it is to provide rational guidance: Professional intellectuals, that is, our professors and university professors. How relevant is this topic in a book on bodybuilding? Everything - if you are sincerely interested in developing your body, the most vitally important. Appearance that is the brain. An absolute, objective and inescapable precondition of learning to think and judge independently, as a mature adult should do, is that one acquires a sound, rational basis of knowledge. Such a philosophical basis consists mainly of a view of the fundamental nature of the

existence and man - and of man's relation to existence. Professional intellectuals have abandoned their roles as guardians of culture by teaching that there is no objective reality, or existence, independent of man's consciousness - therefore "knowledge" is a subjective illusion, science. Based on universal principles, an impossibility, reason an old-fashioned Superstition, and ethics, a dispensable, subjective luxury. Implicit in this view of reality, man and knowledge is the notion that man himself cannot be radiantly competent, a creative and productive hero, but is instead a mere piece of material substance unfortunately pushed by unknown, mysterious universal Forces forever beyond your understanding and control.

Page 9

The important role that self-esteem plays in the development of the intellect is undeniable. What chance will our young people have of acquiring healthy self-esteem and independence of thought and judgment when our universities are teaching them. that there is no "legitimate" objective universe and, therefore, that reason, logic, science and ethics are irrelevant? Yet this is the dominant philosophy taught in Our schools and great universities. When practically an entire culture adopts as Its fundamental philosophical principles these are irrational, anti-mind;: I 22 HEAVY DUTY || Anti-life ideas, the result is the chaos we see around us. If you too, like so many others, have been increasingly alarmed by the reports. indicating the progressive decline in students' knowledge and understanding of the world around them; the precipitous increase in drug abuse and suicide; violence paralyzing our towns and cities; Intellectual crimes masquerading as "art" - the novels and movies that depict man as little more than a sex-obsessed murderer. Maniac, now you have a "why" idea. (The artistic values of a culture are a barometer of its intellectual-moral state.) And if you think that school or university is I am still the best or the only place to go for "mental training" or exaggerating. About the kinds of ideas being taught today, you'd better think twice. Consider, for example, what today's philosophers, those whose work in the Intellectual division of labor is of the utmost importance - establishing the criteria of what can be accepted as valid human knowledge - are teaching young minds. Contemporary philosophy is now dominated by "postmodernists." His approach to the realm of the intellect, that is, the large-scale context of the history of Ideas, is that such a realm does not exist. They do not disagree with Plato, Aristotle, Saint Thomas Aquinas, Kant, and Ayn Rand on their responses to the fundamental principles. Questions about the nature of man and his relationship with reality. Your responses, From establish the criteria of what can be accepted as valid human knowledge - they are teaching young minds Contemporary philosophy is now dominated by "postmodernists". His approach to the realm of the intellect, that is, the large-scale context of the history of Ideas, is that such a realm does not exist. They do not disagree with Plato, Aristotle, Saint Thomas Aquinas, Kant, and Ayn Rand on their responses to the fundamental principles. Questions about the nature of man and his relationship with reality. Your responses, From establish the criteria of what can be accepted as valid human knowledge - they are teaching young minds Contemporary philosophy is now dominated by "postmodernists". His approach to the realm of the intellect, that is, the large-scale context of the history of Ideas, is that such a realm does not exist. They do not disagree with Plato, Aristotle, Saint Thomas Aquinas, Kant, and Ayn Rand on their responses to the fundamental principles. Questions about the nature of man and his relationship with reality. Your responses, From Kant and Ayn Rand on their responses to the fundamental principles. Questions about the nature of man and his relationship with reality. Your responses, From Kant and Ayn Rand on their responses to the fundamental principles. Questions about the nature of man and his relationship with reality. Your responses, From

According to the postmodernists, they are not important because the questions are wrong, they are baseless and irrelevant to human life. In other words, his claim to the title "philosopher" consists in denying the very existence of Philosophy as a viable intellectual discipline. Dr. Gary Hull, an Objectivist who is Professor of Philosophy at Whittier College, explains in his article, "Contemporary Philosophy: A Black Hole Report" that the Postmodern Approach to Philosophy "... is spoken reverently at professional conferences and in scholarly publications; the next generation of philosophers is being force-fed; and MIND: CHECK YOUR LOCALS 23 is influencing every subject from history and literature to law and economics. " It is no longer that of a court of pure reason that defends or discredits the claims of Knowledge made by science, morality, art or religion. Rather the voice of the Philosopher is that of the informed dilettante. Now that philosophy has dislodged itself from civilized culture and the realm of the intellect by proclaiming that fundamental principles do not exist, we are witnessing It is no longer that of a court of pure reason that defends or discredits the claims of Knowledge made by science, morality, art or religion. Rather the voice of the Philosopher is that of the informed dilettante. Now that philosophy has dislodged itself from civilized culture and the realm of the intellect by proclaiming that fundamental principles do not exist, we are witnessing

Page 10

The inevitable result: the progressive disintegration of modern science. (It was Aristotle who taught that philosophy is the fundamental science. Its function is to establish the fundamental principles of reality that allow special sciences. And then study isolated aspects of the universe.) Not so long ago, none other than the American Association of Psychology. voted BF Skinner as the most influential modern psychologist, second only to Freud as the most important psychologist of all time. The central idea of Skinner's. Philosophy, which he elaborated in his best-selling book, BEYOND FREEDOM. And DIGNITY, is that "man is not conscious", nothing more than a "stimulus-response automaton". Perhaps the best response to such a nonsensical comment was Ayn Rand's comment: "In your case, I believe it; BF Skinner is not conscious! "Where did Skinner teach his fierce and hateful man? Philosophy known as behaviorism? What do you think of the title of his book? Does it imply?) Why Harvard no less, that bastion of higher education? In that other "Ivory Tower", Berkeley, there is a very famous philosopher of science, Professor Paul Feyerabend, who supports the religious subjugation of individual thought. Not only did the Inquisition publicly endorse Galileo's punishment, but in his book, FAREWELL OF REASON, Feyerabend * = ■ 2 4 PUBLIC WORKS I protests the reluctance of the modern Church to teach the "wolves of science" some manners ". Considering that Galileo was imprisoned and nearly beheaded as a reward for his discovery that the Earth was not the center of the universe,

Madame Curie, Jonas Salk or Albert Einstein. *** *** *** Seriously consider the long and tortuous intellectual struggle that stretches from Plato and Aristotle, to Saint Thomas Aquinas, to John Locke, to our Founding Fathers Thomas Jefferson and James Madison. These were men of the mind whose commitment to reality, man, objectivity, reason, science, morality. and justice were directly responsible for The Renaissance, The Age of Enlightenment, and their products: capitalism (freedom) and the Constitution of the United States (freedom's protector). Compare their achievement to what the man-haters of the modern world are advocating - the destruction of philosophy and the enshrine-ment of blind emotionalism by the "post-Moderns"; Beyond Freedom And Dignity to enslavement and degradation - by modern psychology; and Farewell to Reason, or good-bye to science, by the new crusaders for a Second Inquisition. Yes, dear reader, our's is not merely a new "Dark Age," but as Dr. Hull's paper indicates, a Black Hole. (If the above isn't evidence enough to prove Dr. Hull's contention, then what about the fact that there are 32 bloody civil wars going on in the world at this moment, not to mention that 100,000,000 men have been slaughtered in this century alone . And for those foolish enough to point to modern scientific technology and its achievements as proof otherwise, remember: such are the products of relatively few minds. And that among the loudest minds today - the environmentalists there are many who would "blast" us back to the Middle Ages and mud huts and bare feet.) If you '

Page 11

sorial, and has no place in a bodybuilding book, check your premises. Bodybuilding does not exist in a vacuum, apart from the rest of life. The idea of "a healthy mind in a healthy body" comes to us from the age of classical Greece, 23 centuries ago. There was a "Golden Age" which idealized the beauty of the human body and exalted the power of man's mind. (In fact, it is to Plato's active, probing mind that we owe an enormous debt for discovering the very concept "philosophy" - and the fact that man needs a method of thought for making valid philosophic identifications of the fundamental nature of things.) The distinctive power of man's mind lies in its ability to form abstractions, ie, concepts, by distinguishing differences and similarities among entities, isolating their common characteristics, and uniting them by means of a specific definition. Concept-formation is man's means of cognition, and it's what distinguishes him from all other living species. The power (or health) of an individual man's mind is directly proportional to his conceptual range, ie, the number of concepts his mind has integrated, how well he understands their exact meaning, and the number of logical connections he has made among them. As a human being, you have no choice as to whether you need a conceptual grasp of reality, ie, a philosophy. To quote Ayn Rand on this matter: "... your only choice is whether s mind is directly proportional to his conceptual range, ie, the number of concepts his mind has integrated, how well he understands their exact meaning, and the number of logical connections he has made among them. As a human being, you have no choice as to whether you need a conceptual grasp of reality, ie, a philosophy. To quote Ayn Rand on this matter: "... your only choice is whether s mind is directly proportional to his conceptual range, ie, the number of concepts his mind has integrated, how well he understands their exact meaning, and the number of logical connections he has made among them. As a human being, you have no choice as to whether you need a conceptual grasp of reality, ie, a philosophy. To quote Ayn Rand on this matter: "... your only choice is whether

role and value of knowledge, ie, man's concepts. If you've ever taken a course in philosophy, or have tried to read any Kant, Hegel, Schopenhauer, Wittgenstein, Freud, Skinner, Feyerabend, Kuhn, Popper, or any of the "post-Moderns," and given up in frustration, don't make the mistake of thinking that you're not "smart enough." It was your healthy pro-man, pro-mind sense of life that rejected it and prevented you from wasting your time trying to decipher that virulent irrationalism. There was a time earlier in my life - my late teens - when I recognized I needed a philosophy, and thought reading that garbage would help. It wasn't until I got to Nietzsche that I thought I found the "answer." After a period of reading his works, I realized that even though he was stimulating my intellect as none of the others did, I still wasn't clear about the role of philosophy in my life. Without understanding it at the time, my sense of life (the preconceptual equivalent of a conscious, intellectual philosophy, ie, an emotional, subconscious view of man and existence) - which was and is in love with the sacredness of the species "man" - was responding to something similar in Nietzsche, which was expressed only implicitly in his writings. But my conceptual development was still immature, and I didn't understand that his explicit philosophy was poorly defined, an emotional, subconscious view of man and existence) - which was and is in love with the sacredness of the species "man" - was responding to something similar in Nietzsche, which was expressed only implicitly in his writings. But my conceptual development was still immature, and I didn't understand that his explicit philosophy was poorly defined, an emotional, subconscious view of man and existence) - which was and is in love with the sacredness of the species "man" - was responding to something similar in Nietzsche, which was expressed only implicitly in his writings. But my conceptual development was still immature, and I didn't understand that his explicit philosophy was poorly defined,

Page 12

inconsistent, contradictory and irrational; as such, it could not help me gain an "integrated view of existence." In the course of my "seeking," I happened upon the works of Ayn Rand. Ms. Rand was a novelist / philosopher whose fiction and technical philosophical writings clearly express an unbreached harmony between her subconscious, emotionally integrated sense of life and her conscious convictions. Finally, someone who felt a love for man similar to mine, and gave it an eloquent, articulate, expression - and without contradiction. This was something entirely different from anything I had previously encountered, and I found it irresistibly attractive. At last, HEAVY DUTY || found an intelligent and rational adult who was serious - very serious, in the appropriate manner, as I'm going to explain - about the mind and the realm of the intellect, ie, ideas. Ayn Rand taught that philosophy is not something one does to while away his free

hour; or just an academic substitute for failed physicists and mathematicians; or a bauble one uses to impress others during the lulls at cocktail parties. Instead, philosophy is the most important factor in human life - "the wholesaler of man's affairs." Every action taken by a human being is preceded and prompted by an idea he has in his mind; therefore, the success, or failure, of any man's actions depend on the quality of the ideas he has integrated into his mind. Of utmost importance, I learned that knowledge - like everything else that exists - has identity, a nature. Human knowledge is hierarchal in structure. Forming the basis of philosophy's hierarchic knowledge are its two fundamental branches: metaphysics, which studies the fundamental nature of reality and man; and epistemology, which studies the nature of knowledge and man's means of acquiring it. Logically based on and derived from these two fundamental branches of philosophy is the third branch - ethics. It is only after one has properly identified the fundamental nature of man - including his means of knowledge - and of the universe in which he acts, that it is possible to formulate a prescription for what man "ought" to do. The next step up man's hierarchal structure of knowledge is politics. Its proper function is to identify and implement the principles that serve as a logical transition from guiding a man's actions to guiding his actions with others. And to tie it all together, and present to man his abstract theoretical philosophy in concertized form -for his pleasure and contemplation - is esthetics, or art. Unlike her antipode,

■ objectivist "who believed that" reality is real "; that there is a THE MIND: CHECK YOUR PREMISES 29 rational," lawful "universe of clear-cut identity governed by one set of never changing principles; that man's mind is not impotent, but perfectly capable of gaining an independent conceptual grasp of objective reality; that man is not an "instinct-driven" or "stimulus-response" automaton, but a being of volitional consciousness who chooses whether he is a hero or a villain; that reason is not a superstition, but instead is "the fountainhead of human progress," responsible for the discovery of the wheel, the control of fire, the creation of the loom, the telescope, the computer, architecture, modern medicine, and the Constitution. Among her many epochal philosophic achievements is her theory of concepts as

Page 13

"objective." She stated that "Since man gains and holds knowledge in conceptual form, the validity of man's knowledge depends on the validity of his concepts." And that while the issue of the nature of concepts may seem esoteric to some, she reminded us that "the fate of human societies, of knowledge, of science, of progress and of every human life depends on it." Another of her landmark achievements - one that had a profoundly personal and helpful impact on me - was her identification of the nature of emotions. Emotions are not "tools of cognition," but are "the products of your premises, the thinking you have

and selfishness (rational self-interest) a virtue; that neurotic "complexes" aren't inevitable, and an integrated personality - harmony of intellect and emotion - is possible; that productive achievement is not vile, but is man's noblest activity; and that capitalism is not vulgar greed, but the ideal, or "just," social system based on the recognition of "man's rights," including property rights. No, learning how to think and judge independently isn't easy. (But neither is bodybuilding.) Just as in bodybuilding, the actions one must perform require guidance by specific principles. Nature allows us no choice in this matter. If, like so many, you'd rather evade the truth and live in a solipsistic torture chamber; remain at the dirty feet of some unintelligible guru; take up tarot cards or tea-leaf reading as a means of gaining "enlightenment"; chant endlessly a litany of Oriental gibberish to achieve synchrony with the deep-centered rhythm of the cosmos; or sit around all weekend at a "male-bonding workshop" crying with a group of namby-pamby misfits about your "lost" masculine identity, instead of accepting the responsibility and effort necessary to learn the laws of logic, the principles of thought, and achieve intellectual independence, ie, your full human stature, of course you are free to do so. But you are not free to escape the Consequences. Just as there is and can be only one valid theory of medicine, physics, electronics, engineering, mathematics or productive bodybuilding exercise, so there can be only one valid, correct, true theory of life - and Ayn Rand discovered it: Objectivism. Stop being a victim of the culture. If you would like to train your mind - but are tired of wading through the mystic-emo-tionalist-subjectivist junk heap - and gain an independent, objective, conceptual grasp of reality, then I suggest you consider the works of Ayn Rand. If and when you do, you'll feel like those first men of the Renaissance, who, having emerged from the Dark Ages and the "medieval shackles," gained a fresh, new perspective of the world and realized happiness

THE MIND: CHECK YOUR PREMISES 31 possible. Ours is a "benevolent universe," but only if you learn and obey its fundamental laws. T «. NATURE, TO BE COMMANDED, MUST BE OBEYED t * 33 yo HEAVY DUTY I "Centuries ago, the man - no matter what his errors - the greatest of your philosophers,

had stated the formula defining the concept of existence and the rule of all knowledge: A is A. A thing is itself. You have never grasped the meaning of his statement. I am here to complete it: Existence is Identity, Consciousness is Identification. Ayn Rand, Atlas Shrugged. "The strength of the human understanding is incalculable, its keenness of discernment would ultimately penetrate to every corner of nature, were it permitted to operate with uncontrolled and unqualified freedom." Elihu Palmer, radical spokesman of the American Enlightenment.

NATURE, TO BE COMMANDED, MUST BE OBEYED 35 As a young man, the word "nature" suggested many things to me. Most of them were held merely in sensory-perceptual form with strong emotional connotations, including images of powerful birds of prey swooping down on their helpless victims; the rich odor of horse manure in verdant fields; fearsome visions of August beasts - such as lions and tigers - dominating the jungles of Africa. And other loose, random associations many less concrete: sex, violence, birth and death. As such, these represented my subconscious, emotional "sense of life." Nothing was clearly defined, explicitly verbalized, or denoted the actual meaning of nature. Now, however, having achieved a pinnacle of sorts in regard to my understanding of philosophy, I've been able to translate my emotional, immature sense of life into a conscious, clearly verbalized and mature philosophy of life. I learned that the concept nature plays a key intellectual role in the formation of a rational philosophy of life, as well as in the special sciences. It forms a triumvirate with two other concepts, consciousness and existence, which together are the axioms of philosophy that literally establish the base of all human knowledge, the foundation of reason and objectivity. Implicit in every statement, proposition, fact or bit of knowledge is the idea: I am conscious of something that exists, and everything that exists does so possessing identity, ie, a nature. % ■ ft- yo HEAVY DUTY || The Two Fundamental Laws of Nature Recall from Chapter One that philosophy is the intellectual discipline whose purpose is to discover the fundamental principles, or laws, underlying / governing the structure (and action) of the entities that constitute the universe, which enable proposition, fact or bit of knowledge is the idea: I am conscious of something that exists, and everything that exists does so possessing identity, ie, a nature. % ■ ft- yo HEAVY DUTY || The Two Fundamental Laws of Nature Recall from Chapter One that philosophy is the intellectual discipline whose purpose is to discover the fundamental principles, or laws, underlying / governing the structure (and action) of the entities that constitute the universe, which enable proposition, fact or bit of knowledge is the idea: I am conscious of something that exists, and everything that exists does so possessing identity, ie, a nature. % ■ ft- yo HEAVY DUTY || The Two Fundamental Laws of Nature Recall from Chapter One that philosophy is the intellectual discipline whose purpose is to discover the fundamental principles, or laws, underlying / governing the structure (and action) of the entities that constitute the universe, which enable

Page 15

sciences to then study specific, isolated aspects of reality. Philosophy's discovery and explicit statement of The Law of Identity, and its corollary, the Law of Causality, provided man with the requisite intellectual base that made it possible for medicine, geology, physics, and any and all other sciences to flourish. The Law of Identity states that everything which exists (entities and their actions, qualities, attributes and relationships) has an identity, or nature; that a thing is what it is, and can be nothing else; or, as Aristotle simply said, A is A. The Law of Identity applied to action is the Law of Causality (cause and effect), which states that an entity can act only in accord with its nature, and cannot act otherwise; or a rock cannot fly, a bird cannot conceptualize, a

muscle cannot grow without imposing the requisite stimulus, and man cannot exist as anything other than man. An Identification of Man's Nature: An Integrate of Mind and Body recognize the fact that which flows into and out of man use the knowledge of reality as a guide - and that is the only way to avoid the mistakes: the failure to recognize that science is an exact science that requires that one must be obeyed. That aspect of reality of most central concern and importance to man is man himself. In order to survive and succeed as man qua man, ie, the rational animal, he must identify his own nature (including his means of gaining knowledge) as well as the nature of the universe in which he acts. And, remember, fundamentally a thing is what it is; we live in a universe where everything - including man's mind and body - has a specific, clear-cut identity and can be nothing else. Man is not a dog, a cat, a bird, a fish, a computer chip, or a stream of photons - A is A, and man is man. Or as Ayn Rand stated, in terms of the sheerest, broadest fundamentals entailing awareness of identity and causality, "Man is a specific organism of a specific nature that requires specific actions to sustain his life." *** broadest fundamentals entailing awareness of identity and causality, "Man is a specific organism of a specific nature that requires specific actions to sustain his life." *** broadest fundamentals entailing awareness of identity and causality, "Man is a specific organism of a specific nature that requires specific actions to sustain his life." ***

***** Birth defects and genetic anomalies notwithstanding, the physical identity of the human species is characterized by the fact that each member's anatomy is comprised of organelles, cells, tissues, organs and appendages whose physiologic principles of organization and function are common to them. Medical science - and exercise science - is based on an understanding of the universality of the principles of human anatomy and physiology. While this last statement may seem redundant to some, considering the near-universal confusion recently concerning the fact that "there is and can be only one valid theory of bodybuilding exercise," such tautology is necessary. It is precisely this fact - that the principles of human anatomy and physiology are universal, or applicable to all members of the species - which makes the sciences of medicine and exercise viable intellectual disciplines. Any attempt to refute the validity of either of these theoretical sciences requires a proof that not all humans are essentially human, ie, that each possesses the same fundamental defining characteristics. Since man is the "rational animal," one would have to marshal irrefutable evidence that human beings exist who do not possess an animal's anatomy and physiology -

Page 16

nor at HEAVY DUTY || rational faculty. Don't hold your breath while looking for any such creature. In my last book, I pointed out that the intellectual pillars of bodybuilding orthodoxy rested on a shaky foundation; in fact, nothing more than mystic quicksand. Its ideological base consists of the notion that "because we are all different, each individual bodybuilder requires a different training approach - or theory." Yes, of course, in the most fundamental sense, each individual is different from every other in that each occupies a definite, different

space in time. Psychologically, each is different in that every individual possesses the unique stamp of an unrepeatable mental character, ie, personality. Important in the context of medical / exercise science is that, anatomically and physiologically, every human being is essentially \ the same. (This is precisely the point on which the modern mystics of muscle go awry, and explains why they can't understand why only one valid theory could exist.) I emphasize the term "essentially" because, albeit true that certain anatomical and physiologic features may vary among individuals, such variations exist within a limited measurable range, without altering the fact that the basic governing principles are the same, without altering the essence of man's animal aspect, his physical nature. for example, the fact that some Negroes don ' t possess the gastric enzymes necessary for digesting dairy products doesn't alter the fact that, nutritionally, each requires a well-balanced diet; that some people have lesser or greater melanin (skin pigment) doesn't alter the fact that all require the presence of a high-intensity sunlight stress to obtain a sun tan; that some have higher IQ's than others doesn't alter the fact that each must volitionally gain knowledge to think and survive; or the fact that there are endomorphs, ectomorphs and mesomorphs doesn't alter the fundamental fact that each requires a high-intensity, anaerobic training stress to induce a strength and muscular size increase. Prove to me that low to moderate intensity aerobic "x> ' > #. NATURE, TO BE COMMANDED, MUST BE OBEYED 39 3' DUTY | | training will work better to develop the muscles than high-intensity, or anaerobic, bodybuilding exercise. It can't be done because A is A - and man is man. Recently I was discussing the "one valid scientific theory of bodybuilding exercise" controversy with one of my in-the-gym training clients. My client is the esteemed Dr. Gregory Kay, a highly trained Western theoretical medical scientist. An experienced cardiac surgeon with close to a 100 percent success rate in the surgical suite, who performs well over 300 open-heart operations a year. Dr. Kay made the point, in effect, that his success, not to mention the overall success rate of modern medical science, is proof that there "is and can be only one valid theory of medicine." And I added, "... indirectly it proves the same for exercise science."

Page 17

success rate with his patients. Then suppose you introduced him to this miracle, Western theoretical medical science, ie, logical diagnostic procedure, antibiotics, analgesics, sterile technique, and surgery, etc. All of a sudden the voodoo witch doctor's success skyrockets off the charts. He can't figure it out; he thinks you're in league with God and the Devil. To say that there is no one valid theory, or that all approaches have merit, is tantamount to stating that the intellectual method of the voodoo witch doctor is as likely to correct a brain

aneurysm as would the intellectual method of a neurosurgeon. Obviously, there is a life-and-death difference between the application of false ideas and the application of true ideas. Knowledge (truly valid ideas), remember, is man's means of achieving all of his goals, including that final goal or end which makes the others possible - the maintenance of his life. Speaking of "intellectual method," just as there is and can be only valid theory of exercise to guide you success-NATURE, TO BE COMMANDED, MUST BE OBEYED 41 fully on your journey toward the acquisition of larger muscles, so there can be only one valid method, or theory, to guide one's thinking toward the acquisition of valid human knowledge. And it only stands to reason that a serious bodybuilder should want to know that the ideas (or principles) directing his training efforts are true ideas. And how will he ever come to distinguish true ideas from false ideas until or unless he learns something about the nature of ideas, which requires knowledge of the identity of man's mind. To settle for anything less than certainty about the truth of the ideas guiding you in the pursuit of your life's goals is to leave your life literally to chance. Remember that the identity of an entity determines how it will act; entities can act only in accordance with their nature, and cannot act otherwise. Just as the identity of man's physical character dictates that certain specific causes be enacted to effect the buildup of muscle tissue beyond normal levels, so the identity of man's mind dictates the specific intellectual method that must be used to achieve valid knowledge. All of the intellectual advances made by philosophy and science resulted from man's use of logic and reason to identify the nature of that which exists. The ultimate goal of religion and mysticism is to prevent you from understanding that your consciousness, like your body and everything that exists, has an identity, too; that it is a faculty with a specific nature and functions through specific means. Those who want to control you - the cult leaders, the gurus, the wizards, the shamans, the soothsayers, and government bureaucrats - all of the modern mystics, in every form and fashion, rely on you relinquishing your consciousness in favor of theirs. But it is a control only you can give them. If you abdicate the responsibility of learning the nature of your consciousness, your means of survival, then you can never control it; thus you unknowingly deliver yourself into the power of those who wish you the worst - whether he's annoying JE? 9 9a- I

Page 18

HEAVY DUTY II to sell you a used wig you don't need, an erroneous training theory, or that theory of politics known as socialist dictatorship. Nature, to be commanded, must be obeyed. The absolutism of reality dictates how you must guide your training efforts to successfully develop larger muscles, and the absolutism of reason determines how you must direct your thinking so as to achieve intellectual success - truth, knowledge and certainty. Your mind is a rational faculty, which means it has the capacity to reason. Reason is the faculty

that identifies and integrates the material provided by man's senses. Unlike the other animal species, which are guided automatically and unerringly by instincts, man is given nothing automatically. Everything he wants and needs, both existentially and spiritually - whether food, clothing, shelter, transportation, big muscles, or certainty, serenity and a mature philosophy of life - requires that man volitionally choose to make the specific mental effort necessary to focus his perception and thought outward toward reality; only in this way can he gain knowledge. Knowledge, like man's mind, has a nature, too. As stated in Chapter One, all of man's knowledge is hierarchal in structure. It has a foundation, consisting of fundamental ideas and principles. On top of this base, man's knowledge spirals upward in logical progression, toward higher and more complex, derivative concepts and principles. The hierarchal structure of man's knowledge can be most readily observed in mathematics where the fundamentals are addition, subtraction, multiplication and division. It is only on the basis of understanding these fundamentals that one may move logically, ie, step by step, toward increasingly more complex derivative aspects of mathematics, such as algebra and calculus. (The hierarchal structure of knowledge in exercise science is described in the next chapter.) Man's basic method of gaining knowledge is logic. Ayn Rand stated that "Man's means to establish the truth of his answers is logic, and logic rests on the axiom that existence NATURE, TO BE COMMANDED, MUST BE OBEYED 43 existe Logic is the art of noncontradictory identification ... No concept man forms is valid unless he integrates it without contradiction into the total sum of his thinking. To arrive at a contradiction is to confess an error in one's thinking; a maintain a contradiction is to abdicate one's mind and to evict oneself from the realm of reality. "Aristotle stated that the whole of logic is predicated on the Law of (Non) Contradiction, ie," that a thing is what it is, and cannot be something else, at the same time and in the same respect. "Or a muscle is a muscle; it is not a mind, never, nor in any respect. A muscle cannot reason, properly utilize the principles of thought, develop a valid theory of anything, design an Apollo rocket, direct a symphony, conceive of a MedX exercise rehab machine for medical therapy of the human lower lumbar muscles, or extravasate a subdural hematoma. Only the mind of a man, a man who has embraced the volitional responsibility of rational thought and critical judgment, who has chosen to learn the proper use of logic, can do these wonderful things that make our existence so different from that of all other living species. Man's mind is man's mind, and logic is logic. There is no such thing as "polylogic." There is no Aryan logic, no maternal logic, no lesbian logic, no minority logic;

Page 19

there is only the logic of the human species - man the rational animal - and it is the Art / ability of non-contradictory identification of what exists. The reason behind the continuing disintegration of science and the complete collapse of the

Philosophy in the twentieth century is the desire of modern intellectuals to exempt the conscience of man (and its method of use, logic) from the Law of Identity. How many times have you heard these philosophical phrases: "It may be true for you, but it is not true for me." Don't be so sure, no one can be. Are you sure of something? "" It may be good in theory, but it doesn't work in practice. "" It's logical, but logic has nothing to do with reality. "While we've all heard them over and over again, few realize their profound philosophy. PUBLIC WORK | | transcendence. They all say something about the nature of reality, man and man. The efficacy of man's mind in acquiring knowledge of reality, which, I remind you, is a matter of life and death. They are nothing more than a recipe for subjectivism. The essential meaning of these phrases is that reality is not an absolute goal, therefore, universal principles do not exist, and the mind of man is powerless, he can know anything. This, dear reader, is the dominant philosophy of our age, and it is responsible for the destruction of the modern world. When someone says that there is no such thing as a valid theory of nothing, he is implying, in effect, that reality is not real, that A is not A, and therefore no one can be sure of anything. And in doing so he confesses a contradiction; it is the logical fallacy of self-exclusion. The claim that "there is no valid theory" is incompatible with its own content. It is a contradiction because the statement itself is a theory; that is included, therefore, implies the opposite. If there is no valid theory, and my statement is a theory, then "there is or may be a valid theory". The same with the idea "no one can be sure". As it represents a claim of truth, it includes itself. (since no one can be sure, I cannot be sure that I cannot be sure), and it implies that the opposite is true, that "certainty is possible." *** *** *** Philosophically, those who claim knowledge are effortlessly available (that is, without the necessary recourse to a rigorous method) are known as mystics, While those who claim that knowledge is not possible are skeptical . Before my recent Proclaiming that High Intensity Training Theory is the Only Possible Valid Anaerobic Exercise / Bodybuilding Theory, The implicit attitude of the bodybuilding orthodoxy was mystical. Because no one up to that point had fully complied. Focused on the topic of truth and falsehood, they all implicitly agreed to deliver each other, a blank intellectual and moral check effect, hey I'm not going to bring up the topic if you can't then we can all Nature, to be ordered, must be obeyed 45 Let's continue pretending that we are 'experts' and earn money. Let the most ruthless win. "The mystic, remember, is someone who abdicates the effort and responsibility of His scrupulously demanding use of logic. It is as if he believed that simply by regurgitating the arbitrary contents of his subconscious onto a piece of paper, he has himself a valid theory and should be accorded the title genius, or expert. Since my proclamation, most of these people turned into skeptics. Now they say

either "there cannot be just one valid theory," or, "nobody knows for certain what's

Page 20

true "or, more directly personal," Well, who does Mentzer think he is! Who's to say he's right? "In fact, the actual issue should not be" Who's right? "But" What is true? "The theory of high-intensity, anaerobic, bodybuilding exercise is not true because I or anyone else, no matter how many might agree, say it is true. It is the fact that the logic of the theory is unassailable which makes it true. -I ANOTHER KIND OF DEFINITION -JB HEAVY DUTY || ANOTHER KIND OF DEFINITION 49 t * ■ * * . ' . t "Most people ... think that abstract thinking must be" impersonal, "which means that ideas must hold no personal meaning, value or importance to the thinker ... But if you are the kind of person who knows that reality is not your enemy, that truth and knowledge are of crucial, personal, selfish importance to you and your own life - then the more passionately personal the thinking, the truer the clearer. "Ayn Rand, Philosophical Detection." Man cannot survive except through his mind. He comes on earth unarmed. His brain is his only weapon ... Everything we are and everything we have comes from a single attribute of man, the function of his reasoning mind. "Ayn Rand, The Fountainhead The subject of logic is vast, a complete examination of which is certainly outside the scope of this work. I will address, however, one of the most crucially important aspects of logic - completely overlooked by bodybuilding theorists - which relates to the role played by unequivocal definitions. Because man acquires and holds his knowledge in the form of concepts, it is the validity of his concepts, ie, the precision of their definitions, which determines the validity of his knowledge. To quote Ayn Rand, from Introduction to Objectivist Epistemology, on this issue: "Since concepts, in the field of cognition, perform a function similar to that of numbers in the field of mathematics, the function of a proposition is similar to that of an equation: it applies conceptual abstractions to a specific problem. "A proposition, however, can perform this function only if the concepts of which it is composed have precisely defined meanings. If, in the field of mathematics, numbers had no fixed, firm values, if they were approximations determined by the mood of their users - so that "5," for instance, could mean five in some calculations, but $61/2$ or $43 / 4$ in others, according to the user's 'convenience' Recall from above that a proposition or a theory can fulfill its proper intellectual function only if the concepts that make it up have precisely defined meanings. This is true of any theory, whether it be the theory of relativity, IC; - Recall from above that a proposition or a theory can fulfill its proper intellectual function only if the concepts that make it up have precisely defined meanings. This is true of any theory, whether it be the theory of relativity, IC; -

*>. i ' . * Wli (I. HEAVY DUTY || ANOTHER KIND OF DEFINITION

Page 21

51 the theory of evolution, or the theory of high-intensity training. The process of establishing precise definitions is rigorously demanding, which is why mystics and skeptics turn away from the realm of the intellect. Concepts are the tools of thought; the better your tools, the better, ie, the more precise, the closer to the actual facts of reality, will your thinking be. The improper use of concepts, using them without knowing their exact definitions, is one of the primary causes of illogic, especially in the field of bodybuilding. Let's look at the field of exercise science. Just as knowledge in the fields of mathematics and philosophy has a structure, so does the context of knowledge which constitutes exercise science. The most basic, or fundamental, distinction in exercise science is the one delimiting aerobic exercise as a branch separate from anaerobic exercise. Aerobic exercise is geared exclusively to the development of endurance of a specific type - with activity that involves a metabolic pathway that efficiently resynthesizes energy substrates, especially ATP, in the presence of oxygen. Aerobic literally means with oxygen, and is properly defined as low-intensity, long-duration exercise. Anaerobic activity is an entirely different species of exercise, one that is geared specifically to the development of strength, muscular size, and speed, and it involves a different metabolic pathway, one that utilizes glycogen almost exclusively as its energy substrate. Anaerobic means without oxygen, and is properly defined as high-intensity, short-duration exercise. Aerobic activity is carried out at such a low level of intensity (with very few muscle fibers contracting at any given moment) that the body can deliver the muscles sufficient oxygen for rapid enough resynthesis of the energy substrates; thus the activity can be carried on for long periods. Anaerobic activity, such as weight training to failure or sprinting, is carried out at such a high level of intensity (with as many fibers contracting as possible) that the body cannot obtain nearly enough oxygen to resynthesize energy substrates, and within a VP™ short period is forced to switch to glucose for energy metabolism. The body's ability to provide energy from sheerly glucose metabolism is quite limited. So when a muscle has used up all available oxygen possible, the activity will cease very quickly as at the last rep of a set of bodybuilding exercise to failure. And if the high-intensity exercise is repeated beyond that initial bout or burst, because the amount of glycogen (stored glucose) within the muscle is quite low, the activity will soon lapse, willy-nilly, into a less intense form. While the fields of aerobic exercise and anaerobic exercise don't have much in common, the one intellectual element they obviously do possess together is the concept "intensity." As I stated above, aerobic activity is low-intensity, longduration, while anaerobic-bodybuilding activity is high-intensity, short-duration. The concept "intensity," I submit, is the foundation (or most fundamentally important principle) of exercise science. It is only on the basis of an understanding of intensity that one may define either type of activity, as well as establish the contexts necessary for studying both energy metabolism and the issues of volume and frequency. First Cause When a bodybuilder goes to the

gym to work out, his goal, of course, is to build bigger muscles. Therefore, there has to be some element, some factor, some

Page 22

variable within the workout itself which is responsible for inducing growth stimulus. It is only within the context of understanding what this variable is that a bodybuilder can consciously and intelligently enact the cause necessary to effect growth stimulation. And, of course, it is related to the intensity of effort involved with any given set of an exercise. Arthur Jones properly defined intensity as the percentage of possible momentary muscular effort being exerted. An understanding of the precise meaning of this concept is required before one may move logically to further develop the theory of high-intensity training. Since the definition of intensity is rather abstract, it may be quite difficult to understand. The best way to clarify a high-level abstraction is to go to a concrete, ie, an example in perceptual reality, as done below. Let's assume, hypothetically, that you can curl a 100-pound barbell for a maximum of 10 reps to failure, but you couldn't possibly finish an 11th rep. You, like any healthy, well-conditioned person, are capable of exerting yourself with a maximum effort at any given moment. If you looked outside your window right now, for instance, and saw a loved one pinned under a car, without a second thought or need of warm-up, you'd run out and attempt to lift the car off that person utilizing 100 percent of your possible momentary muscular ability or, more simply, 100 percent intensity of effort. The first rep of that set of curls with 100 pounds to failure, however, does not require an all-out effort. Of all of the reps of that set, the first would obviously be experienced by you as the easiest, the one requiring the least intensity of effort. That first rep would fatigue you slightly, however, and that's why the second rep would be experienced by you as a little bit harder to complete. Whereas the first rep may require on the order of 8-12 percent of your possible maximum momentary muscular effort, the second rep may require 16 percent. The second rep fatigues you even further, and the third rep will be harder still, requiring a more intense effort to complete than did the second. And so it goes with each successive rep, each growing progressively more difficult to complete, each requiring a more intense effort than did the preceding one. Until, finally, we get to that last possible rep, in this case the 10th one, which requires a maximum, all-out effort. You are gritting your teeth, shaking all over and you're just barely able to curl the bar to the top. That would be the only rep of that set which is said to require literally 100 percent intensity of effort. If you could curl 100 pounds for 10 reps, but you only did the first rep and put the bar back down on the floor, never attempting any more than that, do you think you'd ever grow? No, you wouldn't. Why? Because the intensity of the effort required would be too low to stimulate, or cause, an adaptive response. That would be the only rep of that set which is said to require literally 100 percent intensity of effort. If you could curl 100 pounds for 10 reps, but you only did the first rep and put the bar back down on the floor, never attempting any more than that, do you think you'd ever grow? No, you wouldn't. Why? Because the intensity of the effort required would be too low to stimulate, or cause, an adaptive response. That would be the only rep of that set which is said to require literally 100 percent intensity of effort. If you could curl 100 pounds for 10 reps, but you only did the first rep and put the bar back down on the floor, never attempting any more than that, do you think you'd ever grow? No, you wouldn't. Why? Because the intensity of the effort required would be too low to stimulate, or cause, an adaptive response,

ie, a strength and muscular size increase. Do you see where it stands to reason that the last rep would be better than the second, third and fourth reps, etc?

Page 23

That last rep is very special. There is something that goes on physiologically at that point in the set where maximal intensity of effort is being exerted, which is literally responsible for triggering the growth machinery into motion. Additionally, once you've actually induced growth stimulation by reaching a point of momentary muscular failure, you don't have to do it again. Why? Because you've already achieved your goal of setting the growth mechanism into motion. It's like when you throw the switch to turn on a light - once you've thrown the switch, the mechanism is in motion, and you don't have to stand there flipping the switch up and down. This was a point I didn't fully clarify in my last book, which was responsible for considerable confusion. It resulted in people's failure to grasp the essence of the cardinal principle of the theory, which is: only one set of an exercise carried to failure is all that is required to stimulate an optimal increase in strength and muscular size. Lacking a grasp of this point inevitably leads to the commitment of a number of serious training errors that will seriously compromise training progress short of optimal increases. I noticed, for instance, that many of my phone consultation clients would call back for a first follow-up to report on their progress, and state something to the effect that while they enjoyed the intense, short workouts, they often felt they should do one or two sets more for an exercise than the one set I had prescribed. Based on their feeling, they performed the additional set or two. And I would respond by informing them that the "repeating the drop process as many as two or three times. This is not a method of intensifying the effort, but of extending the effort; Therefore, it is more of an endurance training technique. Since the person already triggered the growth machinery into motion by reaching momentary muscular failure on the first part of the set, any more exercise after that is not just wasted effort, it is counterproductive. Any exercise beyond that is unnecessary in that it doesn't serve to effect further growth stimulation; it is undesirable because it effects a further inroad into recovery ability, using that Since the person already triggered the growth machinery into motion by reaching momentary muscular failure on the first part of the set, any more exercise after that is not just wasted effort, it is counterproductive. Any exercise beyond that is unnecessary in that it doesn't serve to effect further growth stimulation; it is undesirable because it effects a further inroad into recovery ability, using that

much more of the body's resources for compensation (recovery), thus leaving that much less of the body's resources available for overcompensation (growth). More on this in the next chapter. It only stands to reason that without a knowledge of what the specific stimulus is that causes a strength and muscular size increase, one cannot know how many sets to perform or how frequently to train. It is only on the basis of understanding the principle of intensity that one may move logically to the issue of precisely regulating volume and frequency. * £.

Page 24

HEAVY DUTY | | words, if one doesn't understand the nature of the stimulus, what is he going to regulate? And why? And how? *** *** *** Although people seek to develop larger muscles and obtain a suntan for cosmetic reasons, nature evolved these capacities as adaptive responses to intense physical stresses. The buildup of muscles and melanin beyond normal levels represent defensive barriers against future assaults from the same high-intensity physical stressors; namely, anaerobic bodybuilding and ultraviolet sunlight. In the late 1800's, the famous French physiologist Claude Bernard stated that the ability of living organisms to maintain the constancy of their internal physiologic milieu despite changes in the environment is perhaps their most salient physical characteristic. For example, an individual exposed to fluctuations in atmospheric temperatures doesn't experience a change in body temperature unless, of course, the environmental changes are radical. An individual can also eat large quantities of a particular food substance without fear of greatly altering the composition of his blood such as to be dangerous. The capacity to maintain a constant internal environment is known as homeostasis (from the Greek, "to keep a similar position"). And it is the body's adaptive capacity that makes homeostasis possible despite the disruptive influence of stressors. The body is very economical with its reserve of adaptive biochemical resources, and will not disrupt its homeostatic balance by using these resources unless there is sufficient cause to do so. Only a high-intensity, anaerobic, exercise stress - or a high-intensity ultraviolet sunlight stress - is sufficiently "threatening" to the body's reserve of resources that it will mobilize its defensive forces. The adaptive process is essentially defensive in nature, and the degree to which an adaptive response is stimulated is directly proportional to the intensity of the stressor. And it's an either / or situation. Either the intensity of the stressor is high enough to cause a specific adaptive response or it is not. An absolute, objective requirement of nature is that a set of an exercise be carried to a point of momentary muscular failure to effect an increase in strength and muscular size. Attempting to go beyond your existing capacity makes for such an inroad into the body's existing reserve of resources, it will enlarge upon its existing capacity as a means of protecting its precious limited reserves. If not, the reserves would eventually be exhausted, and death

would soon supervene. To conclude this chapter, man's specific physiologic characteristics dictate what training causes must be enacted to achieve the desired effect, ie, an optimal increase in strength and muscular size. The primary causal determinant is the imposition of a high-intensity stress. And while the imposition of a high-intensity training stress is a first necessary cause, it is not sufficient cause to effect an optimal increase in strength and muscular size. The fact that the human body possesses a limited recovery ability must also be given adequate consideration. I BALANCING THE THEORETICAL ACCOUNT

Page 25

60 BALANCING THE THEORETICAL ACCOUNT 61 "The disintegration of philosophy in the 19th century and its collapse in the 20th have led to a similar, though much slower and less obvious, process in the course of modern science." Ayn Rand, *Capitalism: The Unknown Ideal*. Since starting my training business some six years ago, I've had considerable success with my clients. Their progress has generally ranged from mostly satisfactory to occasionally dramatic, and in a handful of cases, phenomenal. In the relatively few cases where progress was less than satisfactory, such was the result of either very poor genetics and / or mistakes on my part, mistakes which I won't make again. As well as my clients were doing, I was aware for some time that they should be doing even better - especially with their long-range progress. I was in the midst of a period of very intensive study of philosophy, logic and the nature of theoretical knowledge. I had arrived at a juncture in my studies when I clearly recognized that, if in possession of a valid theory, and the proper practical application of the theoretical principles is made, progress - no matter what the field of endeavor - should be immediate, continuous and worthwhile until the goal has been reached. (A theory, remember, is a set of principles which serves as either a correct description of some aspect of reality and / or a guide for successful human action.) While my clients' progress was always immediate from the outset of their training with me , it wasn't always continuous and worthwhile in every single case. Why not, if, in fact, I was in possession of a valid theory and was making the proper application? I immediately concluded that there had to be a flaw in the theory of high-intensity training as preferred by Arthur Jones - and uncritically accepted by just about everyone within his sphere of influence. Recall from Chapter Two that in the field of cognition (thought), concepts play a role similar to that of numbers in a mathematical equation, but they may do so only if the concepts 62 HEAVY DUTY || BALANCING THE THEORETICAL ACCOUNT 63 are precisely defined. If any of the theoretical principles were improperly defined, practice would be skewed to that extent and progress would be compromised. In checking the theory for intellectual precision, I went to the first principle, the principle of intensity, and found it to be properly defined.

definition was unquestionable. He stated that intensity refers to the percentage of possible momentary muscular effort being exerted, and that to stimulate an optimal increase in strength and muscular size, a set of an exercise must be carried to a point of momentary muscular failure where 100 percent intensity of effort is being exerted. It was after Jones precisely defined intensity that he made a grievous mistake, a mistake that seriously compromised the efficacy of a superior approach to training to the extent that I and thousands of others who thought we had the Holy Grail quickly grew frustrated. It was here that Jones left the realm of science and cognitive precision, and slipped into the arbitrary. Whereas the dominant training ideology of the time as espoused by Weider, Schwarzenegger et al advocated

Page 26

that everyone train each muscle with 12-20 sets two to three times a week, for a total of six workouts or more per week, Jones properly indicated that such a regimen amounted to gross overtraining. His prescription for the problem, however, wasn't much better: he suggested everyone train the whole body three times a week with a total of 12-20 sets per workout, which quickly amounted to mild, and then severe, overtraining. In other words, while the bodybuilding orthodoxy seemed to be operating on the notion that "more is better," Jones countered by suggesting "less is better." He said that to be productive, intense exercise must be brief and infrequent. What does brief and infrequent mean precisely? Jones wrong. He left his legion of intransigently devoted followers, many of whom almost seemed to regard him as omniscient and infallible, wanting. We knew that the theory had some validity, yet didn't yield the results we knew were possible. .1 64 HEAVY DUTY || In a very real sense, Jones was merely reacting in knee-jerk fashion to Weider. This was due to a critical blind spot on his part. Jones wasn't intellectually ensconced in theoretical fundamentals as much as he was literally obsessed with discovering methods for making extremely accurate measurements of certain derivative aspects of exercise, such as range of motion, speed of rep, number of reps, torque, friction and stored energy, among other things. As noble an endeavor as this may be, the appropriate integration and application of such knowledge is possible only within the context of a precise understanding of the fundamentals. For instance, what's the difference if one understands the exact role of speed of rep and range of motion if the trainee is performing too much in the way of both volume and frequency of exercise so that overtrained. No matter how much more growth stimulation is being induced as a result of the application of knowledge of derivatives, such only assumes relevance once the fundamentals are properly understood and applied. Most bodybuilders today still seem to have the notion that the purpose is to go into the gym and discover how many sets they can perform, or how long they can endure. A bodybuilding workout is not aerobic training - nor is it an s overtrained. No matter how much more growth stimulation is being induced as a result of the application of knowledge of derivatives, such only assumes relevance once the fundamentals are properly understood and applied. Most bodybuilders today still seem to have the notion that the purpose is to go into the gym and discover how many sets they can perform, or how long they can endure. A bodybuilding workout is not aerobic training - nor is it an

endurance contest! Many others, including Dorian Yates, and high-intensity theorists Arthur Jones and Ellington Darden, are operating on the idea that the purpose is to go into the gym and do merely less than what the majority is doing. I'm saying that since the majority hasn't the slightest clue as to what they're doing, to do merely less is not good enough. To illustrate the point in extreme form: if the orthodox opinion has it that 400 sets performed six days a week is the best way to build muscle, and that is overtraining, just performing 200 sets three days a week, which is certainly less, doesn't necessarily make that the best way to train. That represents a form of the blind leading the blind. Science is an exacting discipline whose purpose is to dis-

BALANCING THE THEORETICAL ACCOUNT sixty-five cover the specific, precise facts of reality; it is an idea which flows from the philosophic fundamental that a thing is what it is and can be nothing else - or A is A. Weider's notion that one should perform 12-20 sets for each muscle is not exact. Is it 12 sets, 14 sets, 17 sets or 20 sets? And if 12 sets is sufficient, why do 20 sets? Since he never provided any explanatory context to support his notion, it

Page 27

amounts to nothing more nor less than a blind, groundless assertion. Jones' response wasn't based on or derived from a scrupulous process of thought either. Weider said turn left, Jones said turn right. To advise people to train with 12-20 sets for the whole body instead of each muscle is inexact and arbitrary. And why should people necessarily train either six times a week or three times a week? Our culture has traditionally insisted that it is a virtue to work six days a week with one day, Sunday, off for rest and religious observance. Also, in our culture the number "3" has enormous traditional meaning - three square meals a day, the Holy Trinity, the three bears, the notion that catastrophes occur in lots of three, etc. Weider and Jones both established approaches to bodybuilding exercise based on religious tradition and the arbitrary. With a truly scientific, theoretical approach to exercise, there is no room for the traditional or the arbitrary. So the proper attitude is to go into the gym like a rational human being and perform only the precise amount of exercise required by nature. Not more is better, not less is better, but the precise amount required is "best." And as it turns out, the Precise amount of exercise required by nature is less than anyone realized until recently.

Scientific Precision: $2 + 2 * 3\frac{1}{2}$ If you were going to have an appendectomy or some other delicate surgical operation, obviously you would very much HEAVY DUTY || BALANCING THE THEORETICAL ACCOUNT 67 want the anesthesiologist to inject, or apply, the precise amount of chemical compound required to induce a state of anesthesia. If, as you were being wheeled into the surgical suite, you overheard the anesthesiologist say, "Pump him up," as is said in bodybuilding, "pump him up, give him more, more anesthesia is better than less!" you wouldn't feel very good. In fact, you would jump up off the stretcher and run out the door. Or if you overheard the

anesthesiologist say, "Let's give the patient less anesthesia than we gave that one yesterday, we killed the poor man," you wouldn't feel much better. In this particular situation, where life and death is clearly the issue, it's very easy to grasp why scientific precision is so important. But that same principle from medical theory carries over and has direct application to bodybuilding theory. (Recall from Chapter Two that exercise science derives from medical science. The ideal, in both medical and exercise science, is to work to alter, or correct, human physiology with as high a degree of precision and exactitude as is required.) field of bodybuilding science, however, we are not looking to inject, or apply, a specific chemical compound to induce muscular hypertrophy. (Ultimately, of course, inducing muscular hypertrophy by imposing a training stress is effected via a biochemical change. It is conceivable that, in the near future, biochemists could discover a chemical compound that would be injected into a human being to induce muscle growth beyond normal levels without any need of a training stress being imposed - unlike the case with steroids, which merely facilitate the process of protein synthesis but require a training stress.) Instead the idea is to impose, or apply, a specific training stress onto the human physiology that will serve to induce the biochemical changes which result in muscular growth. Applying any more training stress than is precisely required by nature is overdosing on the medicine, or as is commonly referred to in bodybuilding, overtraining.

Page 28

From my present vantage point today, in late August of 1995,¹ I see that when I wrote the new, revised HEAVY DUTY three years ago, my level of understanding in this field was something like two plus two equals three-and-one-half. That is close to the truth, but it isn't close enough to balance one's check book, or my clients' physiologic account. The workout routine suggested in that book represents a concretization (or practical application) of my understanding of the theory's conceptual, abstract principles at the time. And while that routine worked well for thousands, including my own personal clients, I realize now that we were all settling for something less than 100 possible units of Progreso. Presently, my understanding of the fundamental principles of the theory of high-intensity training is thorough and complete - not two plus two equals three-and-a-half, but two plus two equals four! Heretofore, I would only occasionally have clients gain 10 to 20 pounds in a month or 30 to 40 pounds in three to four months. Now such is no longer the exception, but the rule! (The routine offered in the next chapter represents the last word on achieving optimal results from anaerobic, high-intensity, bodybuilding exercise; it is the ultimate consequence and final practical application of the properly validated theoretical fundamentals.) Remember, it was the depth and clarity of my understanding of the nature of theoretical knowledge that led me to question my clients' progress. This prompted me to review some of the work of Dr. Hans Selye, the brilliant I would only occasionally have clients gain 10 to 20 pounds in a month or 30 to 40 pounds in three to four months. Now such is no longer the exception, but the rule! (The routine offered in the next chapter represents the last word on achieving optimal results from anaerobic, high-intensity, bodybuilding exercise; it is the ultimate consequence and final practical application of the properly validated theoretical fundamentals.) Remember, it was the depth and clarity of my understanding of the nature of theoretical knowledge that led me to question my clients' progress. This prompted me to review some of the work of Dr. Hans Selye, the brilliant I would only occasionally have clients gain 10 to 20 pounds in a month or 30 to 40 pounds in three to four months. Now such is no longer the exception, but the rule! (The routine offered in the next chapter represents the last word on achieving optimal results from anaerobic, high-intensity, bodybuilding exercise; it is the ultimate consequence and final practical

medical scientist whose research on the phenomenon of stress led to his theory, the general adaptation syndrome, or GAS. It was his theory of stress that helped me to better understand as well as further develop the theory of high intensity training. (The field of medical physiology received an enormous boon when Selye published his theory of stress physiology; today the theory of exercise physiology is closely linked to the theory of stress physiology.) Dr. Selye defined stress thusly, "Stress is a state manifested by a specific syndrome which consists of an HEAVY DUTY || of the nonspecifically induced changes within a biologic system." In other words, stress has specific characteristics but no particular one cause. The human body is exposed to myriad stressors (stress-producing agents) day in and day out. These include pain, hot and cold temperatures, emotional stimuli, muscular activity and sunlight, to name a few. While all of these things can induce a stress state, thus making nonspecific causation, the form it takes is always specific. While most think of the development of a suntan or large muscles as merely cosmetic, ie, to improve one's appearance, nature, of course, did not have such in mind. A suntan, like larger muscles, is a "defensive barrier" the body erects to protect itself from future assaults from high-intensity physical stress. But those barriers can be overwhelmed. A person who overexposed his skin repeatedly to intense August sunlight would eventually die as the sun's ray would literally cook his tissues. And as the recent work of Dr. Kenneth Cooper indicates, chronic, gross overtraining may ultimately result in long-range medical problems, such as heart disease and cancer. (This is not difficult to grasp if you think of exercise, in fact, as a form of stress on the entire human physiology. It only stands to reason that chronic, gross overtraining would inordinately tax the overall physical system and could result in a breakdown somewhere within the

Page 29

system, such as the glandular system. Cooper attributes the lymph cancer of Lemieux, the famous hockey player, and, Marty Liquori, the distance runner, to chronic, gross overtraining.) A person exposed to the sun's ultraviolet rays at the equator in summer would not have the slightest concern whether the intensity of the stress is high enough to disturb the physiology sufficiently so as to induce an adaptive response, ie, the buildup of a suntan. His only concern, his overriding consideration, would be to properly regulate the duration (or volume) and frequency of exposure time so as not to overdose. BALANCING THE THEORETICAL ACCOUNT 69 on the stress / stimulus - and incur a sunburn, or in extreme cases, death. A person at the equator in summer doesn't fret as to whether or not he'll develop an optimal suntan, but only if he doesn't overexpose. Bodybuilder's utilizing the non-theoretical, volume approach to training do fret continuously over the prospects of ever developing their muscles because they know nothing about the nature of the specific stress / stimulus required to induce a buildup of muscle mass beyond normal

levels. Their blind concern is with volume. Unlike the suntanner, however, who is rationally concerned with the proper regulation of the imposition of the sunlight stress, the bodybuilder has an irrational obsession with (over) imposing the training stress. The Next Step in the Logical Hierarchy Recovery Ability Those who are unaware of philosophic fundamentals usually have a very difficult time achieving their goals. Being emotionally driven, instead of conceptually directed, they seem to operate on the fuzzy notion that if their desire to achieve the goal is great enough, such will suffice and goal achievement is inevitable. And having never made it a policy to check for inappropriate mental habits, most bodybuilders semiconsciously resort to the unchallenged, unchecked premise "more is better." If stated in words, or theory; only the conscientious use of logic will yield valid human knowledge. In the last chapter, I made the point that man's physiologic nature demands the imposition of a high-intensity stress as a first, necessary cause, but that it is not sufficient cause to effect the desired result. One of man's specific physical characteristics dictates that the imposition of the training stress must be cautiously regulated in terms of both volume and frequency: it is his strictly limited

Page 30

recovery ability. The human being does not possess an infinite capacity for tolerating the exhaustive effects of intense physical stresses. In fact, nothing in the universe is literally infinite, including the biochemical reserve of resources that make up recovery ability. This fact is what led Arthur Jones to state, "It is only rational to use that which exists in limited supply as economically as possible." Very few would argue that a high-intensity training stress is an absolute requirement for stimulating growth. (As a first step toward refuting the theory, one would have to prove that the principle of intensity is invalid; that the first rep of a set of 10 reps to failure is more likely to stimulate an increase than the last, or 10th rep.) The problem that most people have in accepting the theory results from their failure to grasp the full significance of the previous paragraph. While the principle of intensity must be understood as a first requisite for understanding anything else of value about exercise, the fact of a

limited recovery ability is the next key concept that must be grasped in the logically interdependent hierarchy of scientific, physiologic knowledge. It is only HEAVY DUTY II the basis of knowing that the body has a limited recovery ability that one may understand why volume and frequency of exercise must be cautiously regulated. I realize now that the issue has never gained the full attention it deserves, which is why many continue to chronically, grossly overtrain. (When was the last time you heard the term "recovery ability" used by an advocate of the orthodox, volume approach to training? Not only has the bodybuilding orthodox failed to define any of its concepts, its conceptual range is profoundly limited.) fact that recovery ability is strictly limited leads ineluctably to a logically warranted conclusion: the issue of volume, or number of sets, whether one set or 100 sets is performed, is a negative factor - negative with a capital N. In other words, the extent to which you work out, perform a number of sets, is a negative because for every set performed there is caused a deeper inroad into recovery ability; this is undeniably, unquestionably a negative factor. For every set performed, more and more of the body's limited reserve of biochemical resources is used in the attempt to merely recover, or compensate, for the exhaustive effects of the workout, leaving that much less left over for overcom-pensation in the form of new muscle. So, clearly, the issue of volume is a negative factor. Even one set is a negative; Insofar that you train at all you are utilizing biochemical resources that must be replaced, and the more you use the more that must be replaced. It follows log- ically that optimal results can be achieved only as the result of the least, or precise, amount of exercise necessary being performed. Of course, at least one set must be performed to have a workout.

LAN CING THE

THEORETICAL ACCOUNT 73 Toward a Better Understanding of Frequency I find it curious that the great majority of bodybuilders, knowing that overtraining means something decidedly neg-tive never look into the issue seriously. The term is always used as a negative. In fact, try using the concept "overtraining" in a positive context, and you quickly realize it's impossible. By definition, overtraining means performing any more exercise, in terms of both volume and frequency, than is precisely required. amount of exercise necessary being performed. Of course, at least one set must be performed to have a workout.

LAN CING THE

THEORETICAL ACCOUNT 73 Toward a Better Understanding of Frequency I find it curious that the great majority of bodybuilders, knowing that overtraining means something decidedly neg-tive never look into the issue seriously. The term is always used as a negative. In fact, try using the concept "overtraining" in a positive context, and you quickly realize it's impossible. By definition, overtraining means performing any more exercise, in terms of both volume and frequency, than is precisely required. amount of exercise necessary being performed. Of course, at least one set must be performed to have a workout.

LAN CING THE

THEORETICAL ACCOUNT 73 Toward a Better Understanding of Frequency I find it curious that the great majority of bodybuilders, knowing that overtraining means something decidedly neg-tive never look into the issue seriously. The term is always used as a negative. In fact, try using the concept "overtraining" in a positive context, and you quickly realize it's impossible. By definition, overtraining means performing any more exercise, in terms of both volume and frequency, than is precisely required.

LAN CING

THE THEORETICAL ACCOUNT 73 Toward a Better Understanding of Frequency I find it curious that the great majority of

bodybuilders, knowing that overtraining means something decidedly neg-tive never look into the issue seriously. The term is always used as a negative. In

Just as there is and can be only one valid theory of anything likewise there can be only one valid definition - in any given context - of any concept. The definition above is the one valid definition of overtraining. *** *** *** Most bodybuilders today apparently don't understand that the big picture essentially involves two elements of equal value, literally 50-50, not 70-30 or 60-40 - but 50-50, with neither of the two elements being slightly more important than the other. The first element is the workout itself, of course, the second element is the rest period between workouts. The workout, understand, doesn't produce muscle growth, it merely serves to stimulate the body's growth mechanism into motion. It is the body that produces the growth, but only if it is undisturbed.

during a sufficient rest period. Now here's the crux of the problem. How can one know with reasonable certainty just how much time need elapse between workouts? The answer is to be found in the following. Immediately upon completion of a workout, and compare the same as you did immediately before the workout you are exhausted. In addition to the subjective, or personal experience of feeling fatigued, you are also exhausted in a technical sense, in that a considerable portion of your limited reserve of biochemical resources, known ability, was used up to fuel the workout. To the extent that one works out, ie, performs a number of sets, he makes an inroad into his recovery ability. Visualize an inroad as an 'in' into your reserves, ie, a hole. You perform one set, a small hole is made. You perform a second set, a deeper hole; a third set, the hole is deeper still, and so forth! The first thing your body must do after the workout is not build a mountain, ie, the muscle, on top, but fill that hole, ie, recover, overcome the deficit, compensate for the exhaustive effects of the workout. Now the important point: the process of recovery is not completed - zip! - in five minutes after the workout. In fact, the completion of the recovery process may take up to several days, or longer, before the body will have the opportunity to start building the mountain, ie, over-compensating, producing muscle growth. (Keep in mind: if you work out again before the recovery process is completed, you will short-circuit the growth process.) That's right, the recovery process alone may take several days to be completed. And here's the proof. Every bodybuilder has had the experience of doing a tremendous leg workout, for instance, on a Friday afternoon, and then after resting all weekend, he wakes up Monday morning still tired. It usually goes something like this. You went to bed early the night before the Friday workout in anticipation of a great workout; in addition, you had a hefty breakfast that morning in preparation. You go into the gym later in the day feeling more motivated and energetic than usual, and the workout was even better than you'd hoped. Not only was your squat up 20 pounds over your previous best, but the reps were three more than with your previous best weight. The entire workout was "balls to the wall," as Dorian Yates likes to say, and you leave the gym feeling triumphant, but very tired as well. Then you go home and intentionally rest the entire weekend, avoiding any demanding activity. You do so, thinking that this will

Page 32

see you fully recovered and ready for another great workout on Monday. However, quite to your surprise, you're still generally fatigued all day Monday. **BALANCING THE THEORETICAL ACCOUNT** 75 The fact that you are still fatigued on Monday - as a result of your Friday workout - is proof that you hadn't fully recovered even after 72 hours, that there is still a deficit, ie, you're still in a hole. And to work out that day would be a grave mistake. Because you're still in a hole, you would be disinclined to work out at all, and you'd be weaker than you were last workout. And to further disturb the physiology at this juncture with

more exercise, you'd prevent the body from starting to build the mountain on top, the muscle - and you'd just start the digging of a deeper hole. Every bodybuilder has had the experience of being weaker one workout to the next. And this explains why. Let's assume that, for some reason, you were forced to miss your scheduled workout on Monday, thus leaving the physiology undisturbed, and affording your body the further opportunity it absolutely requires to fully compensate for the exhaustive effects of Friday's workout. When you wake up on Tuesday, you're no longer fatigued - not teeming with energy, but feeling recovered. Were you to go into the gym on Tuesday, having provided the body with the added opportunity it required to fully recover, your desire to train wouldn't be great, and you 'd only be as strong as you were the last workout - no weaker, but no stronger either, only the same. And to work out at this point would again be a mistake, because stressing the body with more exercise, you'd short-circuit the process of growth production just as it was about to begin. Now let's assume you were forced to forego Tuesday's workout. And you wake up on Wednesday not just feeling recovered, but energetic and eager to train. In the gym you'd most likely even be delighted as you'd be up 10 pounds on some exercises, a rep or two on others, and things would go generally well. Unbeknownst to you, however, as you hadn't yet read this book, it would be a mistake to train on Wednesday. Why? Because at that point the body only had the opportunity it required to fully recover, but it had produced just something less than 100 percent of the mountain, or muscle. Had you waited one more day, your body would more likely have fully completed the growth production process, and you would have been up 20 or more pounds on some exercises and four or five reps on others. Once I understood the above, in February of 1995,¹ I immediately switched my personal training clients from training every 48-72 hours to every 96-120 hours - and the improvement in their progress has been literally phenomenal! While I had been doing everything just about right in terms of my application of the other two principles of high-intensity training, namely, intensity and the proper regulation of volume, I was considerably off the mark concerning my understanding of how to regulate with precision the frequency, in part, due to fear. Not now. Not since I overcame my fear with full understanding. My fear was associated with the fact that I had not properly thought about the issue of decompensation, or atrophy, that is, muscle loss, after a period of non-training. I, like everyone else apparently (including Arthur Jones), had blindly accepted the prevailing notion that loss of strength and size inevitably begins

within 96 hours of the end of your last workout. I remember when I reduced my clients' training frequency from every 48 Hours to every 72 hours, I was ecstatic. I thought I had discovered the last

key to making the perfect application of high intensity training theory. Since they weren't doing as well as I knew they should train once every 48 hours, and to think that decompensation would start after 96 hours, it seemed to me that I must have reached Perfect by having them train once every 72 hours. But when I saw that some were not doing as well as they should on a once every 72 hour schedule, or so Others soon stopped progressing, I was shocked. Could it be that even that? Was the training frequency too much? And as difficult as it had been. trying to BALANCE THE THEORETICAL ACCOUNT 77 convince the world, and make a living, that training once every 72 hours was correct, what the hell was he going to do now? Actually, The idea that my newly acquired knowledge might be rejected by Others, or that I might lose clients, didn't scare me. It seems like a significant part of my bodybuilding career has revolved around questioning and anger. - the establishment. I decided a long time ago that I'm not on this earth to win a popularity contest, so it didn't bother me. It was the issue of decompensation. After 96 hours of no training, it slowed me down, at least for a while. The issue of decompensation arose in the midst of a period of rigorous philosophical retraining on my part, when I made a conscious conviction that I will never accept anything someone says uncritically again. In fact, he had observed that thus many generally accepted truths, accepted for no better reason than "they say" were false. I decided to challenge the notion of decompensation that occurs after 96 hours. I reasoned that since it can take up to three or four days, or longer, in some cases - to complete the compensation / overcompensation process, how could one state with any certainty that decompensation starts at 96 hours? In other words, how and why would the body start to decom-pensate before it had yet compensated or overcompensated, ie, to lose muscle after a workout before it even recovered and / or grew from that workout? Interesting point! (Always question broad generalizations presented without proof or explanatory context; especially in the area of physiology, where there exists numerous mitigating influences, including genetics.) How many times have you and your bodybuilding associates observed that one always comes back stronger after a one- or two-week layoff? Every individual - without exception - that I've asked this question has responded with ■ baacaHy the same answer, "Yes, you know, it's funny, but now -m: you mention it, I have noticed that I come back stronger after i umm£ sj -, .- &&&& • HEAVY DUTY || every layoff. " If you are stronger after a layoff, don't you see that it's proof positive you were overtraining (in terms of frequency and, most likely, volume), and that decompensation doesn't even start after a two-week layoff - let alone a mere 96 hours ?! Please, don't gloss over this lightly. It's one of the most important issues in ve asked this question has responded with ■ baacaHy the same answer, "Yes, you know, it's funny, but now -m: you mention it, I have noticed that I come back stronger after i umm£ sj -, .- &&&& • HEAVY DUTY || every layoff. " If you are stronger after a layoff, don't you see that it's proof positive you were overtraining (in terms of frequency and, most likely, volume), and that decompensation doesn't even start after a two-week layoff - let alone a mere 96 hours ?! Please, don't gloss over this lightly. It's one of the most important issues in ve asked this question has responded with ■ baacaHy the same answer, "Yes, you know, it's funny, but now -m: you mention it, I have noticed that I come back stronger after i umm£ sj -, .- &&&& • HEAVY DUTY || every layoff. " If you are stronger after a layoff, don't you see that it's proof positive you were overtraining (in terms of frequency and, most likely, volume), and that decompensation doesn't even start after a two-week layoff - let alone a mere 96 hours ?! Please, don't gloss over this lightly. It's one of the most important issues in If you are stronger after a layoff, don't you see that it's proof positive you were overtraining (in terms of frequency and, most likely, volume), and that decompensation doesn't even start after a two-week layoff - let alone a mere 96 hours ?! Please, don't gloss over this lightly. It's one of the most important issues in If you are stronger after a layoff, don't you see that it's proof positive you were overtraining (in terms of frequency and, most likely, volume), and that decompensation doesn't even start after a two-week layoff - let alone a mere 96 hours ?! Please, don't gloss over this lightly. It's one of the most important issues in

bodybuilding science. Decompensation does not start within 96 hours upon cessation of your last workout. I have not observed such with any of my personal training clients, and I've trained in the neighborhood of 2000 individuals over the last six plus years. Recently one of my regular local training clients intentionally rested six days between workouts. This was two days longer than his usual four-day rest. He had called me the night before his scheduled workout on day four to complain of still being very tired from his session three days earlier - and it consisted of only four total sets. And it was not a leg workout, but delts and arms. (The degree of the stress / demands exacted by Heavy Duty, high-intensity training are of a literally staggering magnitude, which is one of the reasons for it being the most productive type of anaerobic / bodybuilding training.) When my client asked if it wouldn't be best to rest one extra day, or five total, I insisted, considering the severity of his fatigue, that I have take two extra rest days. I explained to him that the two extra days off would not possibly pose the risk of a loss, no threat of a negative. However, it would most assuredly present the actuality of a positive: it would provide us with that much greater certainty that enough time had elapsed between workouts to allow for full recovery and total completion of the growth production process. I made it clear to my client that his being fatigued after three days of rest was a clear indication that his body hadn't fully compensated for the exhaustive effects of the workout; therefore, there hadn't been any overcompensation. And to further disturb his physiology at that juncture with more exercise would shortcircuit BALANCING THE THEORETICAL ACCOUNT 79 the growth production process before it had even had an opportunity to start. By the time he returned to the gym on day six, he stated he felt much better and was rarin 'to go. It was his scheduled leg workout, and I bet him that he'd break his record best on Leg Extensions. I placed the pin in the last plate of the machine, which is 250 pounds, and entreated him to give it his all. Talk about improvement! By repetition number 12, it appeared as though he would continue Always. It was only by rep number 20 that he started to visibly fatigue, and he went on to complete 27 reps to failure, breaking his previous best by seven full reps. What made it more interesting was the fact he hadn't trained his legs at all for a full 13 days prior to this workout. I I PRAXIS I v. HEAVY DUTY

|| "Man is in a position to act because he has the ability to discover causal relations which determine change and becoming in the universe." Ludwig Von Mises, Human Action. PRAXIS 83 A principle is a general truth which embodies a number of lesser truths. Or as Ayn Rand defined it: "A principle is an abstraction which subsumes a great number of concretes." Abstract principles represent condensations of a large number of Ludwig Von Mises, Human Action. PRAXIS 83 A principle is a general truth which embodies a number of lesser truths. Or as Ayn Rand defined it: "A principle is an abstraction which subsumes a great number of concretes." Abstract principles represent condensations of a large number of Ludwig Von Mises, Human Action. PRAXIS 83 A principle is a general truth which embodies a number of lesser truths. Or as Ayn Rand defined it: "A principle is an abstraction which subsumes a great number of concretes." Abstract principles represent condensations of a large number of

Page 35

facts about perceptual, concrete reality which, if man had to hold all of them separately and individually, would destroy his cognitive ability. The weight of the

cognitive / factual material would be too ponderous for any man to work with effectively. Broad abstract principles, in other words, reduce the number of mental units a man has to deal with. This improves the efficiency of the cognitive division of labor such that it enormously expands the amount of material that a person can utilize and retain mentally. The principle of intensity, for instance, makes it possible to understand the level of effort involved in all the possible types of exercise activity because its definition subsumes all the concretes you're ever likely to encounter - from complete rest to the last rep of a set carried to failure as well as any and all aerobic activity. The validity of the theoretical principles of the science of productive, high-intensity, bodybuilding exercise, elucidated in the preceding chapters of this book, cannot be denied or refuted. Why? Because such was arrived at as the end result of a long period of empirical observation and meticulous logical deliberation. And, quite simply, because they do in ac, represent the noncontradictory fundamentals of the acjuaisa-ence of anaerobic exercise / stress physiology. While it should not be difficult for anyone to gain a full grasp ° ^^ mental theoretical principles, what may be difficult is the. find concrete, practical request. As mentioned previously, I had 84 HEAVY DUTY || PRAXIS 85 made a number of mistakes myself, mistakes that seriously compromised the progress of my training clients. Toward a Finer Application I recognized that the theory was basically sound, that it was unquestionably closer to the truth than any other theory, or method, being advocated. In fact, no other set of training ideas even came close to being a theory qua theory, ie, as the concept is properly defined. Everything else being promulgated as training theory amounted to nothing more nor less than a wanton assemblage of random, disconnected and contradictory ideas. The plethora of training methods being espoused today are composed of unwarranted assumptions, erroneous genericizations, and insuperable contradictions. Such does not, cannot, constitute a valid theory; Therefore, it cannot serve as a guide for successful human action. The realm of the intellect is more demanding than the average bodybuilding writer realizes, and formulating a rational, logical, noncontradictory system of thought requires knowledge of the fundamental nature of man's physiology as well as of his mind, and his method of using it - logic . A mere passionate discharge of the arbitrary contents of one's subconscious onto a piece of a paper is just that intellectual vomitus. The routine listed in my previous book was the product of my grasp of the theory and of my first few years of experience as a personal trainer. I had known for quite a long time, prior to becoming a personal trainer and writing HEAVY DUTY, that the 12-20 set, full body workouts three times a week as advocated by Jones and Darden amounted to overtraining for the majority. So when I started training people as a business, I had my clients perform only seven to nine sets per workout on a split routine of three days a week. My clients generally made The routine listed in my previous book was the product of my grasp of the theory and of my first few years of experience as a personal trainer. I had known for quite a long time, prior to becoming a personal trainer and writing HEAVY DUTY, that the 12-20 set, full body workouts three times a week as advocated by Jones and Darden amounted to overtraining for the majority. So when I started training people as a business, I had my clients perform only seven to nine sets per workout on a split routine of three days a week. My clients generally made The routine listed in my previous book was the product of my grasp of the theory and of my first few years of experience as a personal trainer. I had known for quite a long time, prior to becoming a personal trainer and writing HEAVY DUTY, that the 12-20 set, full body workouts three times a week as advocated by Jones and Darden amounted to overtraining for the majority. So when I started training people as a business, I had my clients perform only seven to nine sets per workout on a split routine of three days a week. My clients generally made full body workouts three times a week as advocated by Jones and Darden amounted to overtraining for the majority. So when I started training people as a business, I had my clients perform only seven to nine sets per workout on a split routine of three days a week. My clients generally made full body workouts three times a week as advocated by Jones and Darden amounted to overtraining for the majority. So when I started training people as a business, I had my clients perform only seven to nine sets per workout on a split routine of three days a week. My clients generally made

progress on such a protocol that ranged from fair to quite good; however, such progress only lasted up to a few months at the most, until it slowed down and then stopped completely. (Such is no longer the case. Now my clients' progress is immediate, worthwhile and continuous.) The following explains how I arrived at the present concrete application of the theoretical principles - the actual workout I am presently using so successfully with training clients from all over the world. An Air Bubble in the Sea of Causality? Since I had my earlier clients doing considerably less than what Jones advocated, I initially had some difficulty grasping that their less-than-satisfactory, long-range progress was due to overtraining. I also realized it couldn't possibly be the effect of under training. So what was the cause? At about the time that I was pondering this question, a young college student named Racy Chatterji signed on with me as a personal training client. Racy, who is intellectually oriented, had already read my articles, and he recognized and accepted the logic of the theory as basically sound. Believing he had discovered the Rosetta Stone of bodybuilding, he was wildly enthusiastic to get started on Mike Mentzer's high-intensity, Heavy Duty training system. I started Racy out on a seven- to nine-set regimen of three workouts a week, conducted on Monday, Wednesday and Friday. Racy's wide-eyed, innocent enthusiasm was contagious, especially his insatiable $\hat{f}^{\hat{S}}$ and I eagerly looked forward to his workout sessions. But after two months, it was starkly apparent that the program was not working at all. His strength - $\hat{J}^{\hat{g}}$ - was glib at best, and after two months he was only slightly, going down a few reps on most exercises. And, of course, there was no visible muscle mass increase or body-weight gain. I had suggested that for the first six to seven weeks, we should withhold judgment to give the program a little more time. It wasn't long before Racy's careering enthusiasm convoluted back onto itself, and metamorphosed into a sad dispiritedness. Not sure what to do myself at that juncture, my first suggestion to Racy was that he was violating an ethical principle by becoming so despondent over a lack of bodybuilding progress. Nature gives no one an automatic guarantee that life will reward him with everything he desires, how he desires it, in the proportion he desires it, when he desires it. And since the achievement of happiness is man's highest moral purpose, to lose volitional, cognitive control of your concepts, in favor of an undesirable emotion, is violating the Objectivist code of morality. Furthermore, it would be good for his self-esteem to learn how to turn mistakes and failures into valuable learning experiences; Therefore, we should look at this not just as a physical adventure, but an intellectual one as well. Always immediately responsive to a positive philosophic concept, Racy said, "I agree. How do we do that?" "Let's go to the theory you and I both accept as the one valid theory of training," I enjoined. "Let's check each of the three fundamental principles, and how we are employing them. Therein will lie our answer." And so we proceeded. There was no doubt that Racy was training to failure. Identity card had enough clients by that time who tried to fake the intensity, and none got away

with that. Besides, Racy was no stranger to rugged, heavy physical exertion, having won several world championships in the martial arts. We were both convinced that he was okay with the first principle: he was generating sufficient intensity of effort by carrying each exercise to a point of momentary muscular failure. PRAXIS 87 if- ; 88 HEAVY DUTY || Since Racy and I were conversing with the theory, and he knew of the results I was obtaining with some of my other clients, we were left to conclude that he was overtraining in terms of volume, frequency, or both. I decided to reduce both, from 7-9 sets every 48 hours to only five sets per workout every 72 hours, which is every third day. And after a few weeks it was once again obvious that something was wrong, as Racy made literally zero progress! However, rather than lapse into an irrational emotional state, now Racy regarded this as an intellectual challenge. "Alright, Mike, as you and Ayn Rand say: Man is the problem-solving species, so let's figure it out." Before I could say anything, Racy stated what I was thinking, in effect, that he must still be overtraining. This put me in a bit of a quandary. This was the first client I'd ever trained who was so thoroughly nonresponsive to high-intensity training as I was practically applying it. Could it be that Racy would never respond to high-intensity exercise? Was Racy proof that I was wrong about the universal validity of the theory? Or was this a species of metaphysical churlishness, an air bubble in the sea of causality? I knew better, of course, because the laws of reality and nature are immutable. Just because I had a firm intellectual grasp of the theory, however, it didn't mean I had possession of certain ancillary knowledge that might be crucially important. There had to be something about this individual's physiology which would account for his lack of progress. Something that would explain why on so brief and infrequent a program, he was still overtraining. This led me to a review of some of what I knew about the role of genetics. I reasoned that, since genetically mediated traits such as height, sunlight stress tolerance, and intelligence, were expressed across a broad continuum, such would most likely be true of individual exercise stress tolerance. Regarding height, there are midgets at one extreme PRAXIS 89 and giants at the other; with regard to sunlight stress tolerance, there are Scandinavians (and those genetic anomalies known as albinos) at the far left end of the continuum, and negroid people at the far right; and with intelligence, there are those with low, almost moronic IQ's (and the genetic anomaly, retardation) at one extreme and genius IQ's at the other. As Racy likes to tease and cut up a lot, I told him he must be a midget or moron of recovery ability. Although hard to accept at first, my conclusion about genetics led me to reduce Racy's workouts again - this time to only three sets per workout every five to seven days. And it worked. Racy started growing stronger and bigger, although his progress was never dramatic. He properly concluded that he simply doesn't have the genetics to grow in strength or size at the faster rate and negroid people at the far right; and with intelligence, there are those with low, almost moronic IQ's (and the genetic anomaly, retardation) at one extreme and genius IQ's at the other. As Racy likes to tease and cut up a lot, I told him he must be a midget or moron of recovery ability. Although hard to accept at first, my conclusion about genetics led me to reduce Racy's workouts again - this time to only three sets per workout every five to seven days. And it worked. Racy started growing stronger and bigger, although his progress was never dramatic. He properly concluded that he simply doesn't have the genetics to grow in strength or size at the faster rate and negroid people at the far right; and with intelligence, there are those with low, almost moronic IQ's (and the genetic anomaly, retardation) at one extreme and genius IQ's at the other. As Racy likes to tease and cut up a lot, I told him he must be a midget or moron of recovery ability. Although hard to accept at first, my conclusion about genetics led me to reduce Racy's workouts again - this time to only three sets per workout every five to seven days. And it worked. Racy started growing stronger and bigger, although his progress was never dramatic. He properly concluded that he simply doesn't have the genetics to grow in strength or size at the faster rate retardation) at one extreme and genius IQ's at the other. As Racy likes to tease and cut up a lot, I told him he must be a midget or moron of recovery ability. Although hard to accept at first, my conclusion about genetics led me to reduce Racy's workouts again - this time to only three sets per workout every five to seven days. And it worked. Racy started growing stronger and bigger, although his progress was never dramatic. He properly concluded that he simply doesn't have the genetics to grow in strength or size at the faster rate retardation) at one extreme and genius IQ's at the other. As Racy likes to tease and cut up a lot, I told him he must be a midget or moron of recovery ability. Although hard to accept at first, my conclusion about genetics led me to reduce Racy's workouts again - this time to only three sets per workout every five to seven days. And it worked.

exhibited by other of my clients. (For more on the role of genetics in regulating the rate and extent of individual response to exercise, look to HEAVY DUTY I.) Where I was actually apprehensive, initially, at the prospect of reducing training volume and frequency to so low a level with other clients, Racy's success emboldened me. My in-the-gym training and phone consultation businesses were burgeoning by this time, and I decided to reduce all of my clients' training to five sets or so every 72 hours. Why? Because, as mentioned previously, I knew they should have been doing better. Now bear in mind, I never claimed to possess exhaustive knowledge on the subject of exercise science, but then apparently no one else does either, as I was the only bodybuilding theorist moving in this direction, the right direction. In a sense, I was groping with the issue of proper practical application since I hadn't been a trainer all that long. None of the other so-called experts were moving in any direction, as some were advocating the exact same approach for a number of decades. If you are doing exactly the same thing every decade, every year of your life, you aren't learning anything. 9 k 'H? HEAVY DUTY || And just because I'm not omniscient didn't mean that the theory I chose to embrace wasn't basically sound. An abstract theory may have validity, yet still be revised, or modified, or expanded, in light of new knowledge. I was satisfied that now I must have it straight. After all, I made radical changes in my clients' training, reducing the average client's baseline from 7-9 sets every 48 hours to only 3-5 sets every 72 hours. It wasn't long, however, before I grew disillusioned once again. While the majority did better than before, I again had no doubt that they could, or should, do better still, and progress always slowed down considerably after two to three months. This was at the time when my understanding of the nature of theoretical knowledge had grown enormously. Recall that my desire to continue thinking on the subject was motivated by the idea: when in possession of a truly valid theory, and your making the proper practical application, progress should be at least very good, if not spectacular, all the time. I realized that the actualization of an individual's full muscular potential shouldn't take 10 years, or even the two years that Arthur Jones claimed, but one year or less. That's right! One year or less. (More on the issue of actualizing potential later in this chapter.) The mistake I was making was operating on the idea that "less is better." Even though in my last book I had presented the idea that one should perform the precise or least amount of exercise required, at the time I wrote it, and for some time afterward, I wasn't grasping its full meaning and import. I actually found it hard to believe myself that even less training was required for optimal results. One of my favorite philosophic statements was made by Arthur Koestler: "Most scientific discoveries represent successful escapes from blind alleys." One of the blindest alleys almost everyone is caught in is the blind alley of tradition. In a similar vein, Ayn Rand stated, "The role of chance, accident and tradition in an individual "

philosophic equipment. "I had, for a time, uncritically, unquestioningly accepted two traditional beliefs: 1)

Page 39

Training with weights three times a week was best; and 2) Decomensation started after 96 hours. Despite my more extensive intellectual work with the abstract theory of high-intensity training, the full and proper application required more practical experience with my clients. It was the regular analysis of my phone clients' progress charts that ultimately provided me with the data I needed. The Last Causal Connection - Overlapping and Recovery At the beginning of 1995, I couldn't help but notice that more and more of my longterm phone clients were calling back for their regular progress monitoring follow-up calls, reporting that while they were still making good progress with strength increases in the legs, their upper body strength increases slowed down or ceased rather quickly - within eight weeks or so. It was never the opposite, ie, leg progress stopped and their upper body continued increasing. This was a new bit of information to analyze. Why the upper body ceased making progress, while the legs continued? My clients were on a three-workout protocol which had them training chest and back together, then training shoulders and arms 72 hours later, then training legs 72 hours after that. None of the exercises they were performing for the upper body overlapped, involved and affected the \hat{J}^{\wedge} were getting much more recovery time. For every exercise they performed for the "PP / \hat{J}^{\wedge} involved and affected a considerable portion of the 93 considered a pectoral exercise, it unavoidably involves the deltoids, and even more so, the triceps. The red flag went up for me on that one when one of my gym clients had a terrific Incline Press workout; he was up 40 pounds and two reps from his previous workout. When he came back into the gym 72 hours later, his pectorals weren't sore at all, but his triceps were literally sore to the touch! And while the Pulldown is traditionally regarded as a latissimus exercise, it also is a very effective deltoid exercise, and even more so as a biceps exercise. In fact, the Close-Grip, Palms-Up Pulldown is the best biceps exercise you could do better than the curl. When performing a curl, whether a Nautilus Curl or conventional Barbell Curl, you work the biceps around a single joint axis, the elbow, and the predominant stress goes into the lower biceps. When performing a Close-Grip, Palms-Up Pulldown, you are working the biceps around two joint axes, the elbow and the shoulder; thus you are working the biceps muscle more uniformly from both ends. Then 72 hours after my clients trained the chest and back, they worked their shoulders and arms; again, the exercises for those muscles overlapped, involved and affected the pecs and lats as well. In other words, all of the upper body muscles were being worked twice within 72 hours, whereas the legs were being worked only once every nine days, or every 216 hours. An enormous difference in recovery time. And, remember, the legs were still responding positively in every case. The solution was to separate the upper or every 216 hours. An enormous difference in recovery time. And, remember, the legs were still responding positively in every case. The solution was to separate the upper or every 216 hours. An enormous difference in recovery time. And, remember, the legs were still responding positively in every case. The solution was to separate the upper

body workouts by a greater number of days, with a leg workout inserted between them. In addition, I added an extra day of rest time between workouts to further ensure that enough time was elapsing so that both the recovery process and the growth production process were completed. And because I came to understand that an extra rest day or two beyond what a client had been doing while making progress would not pose a threat of a negative, that no decompensation could occur, I

Page 40

u I now had no fear or hesitancy with doing so. Also very important here, I instructed my clients that sticking points in progress weren't inevitable. I continued to remind them, on their regular follow-up calls, that as they continue to grow stronger week to week, lift progressively heavier weights, the stresses grow greater at the same time. And that, unless they periodically inserted another rest day or two to compensate for the ongoing, increasing stresses, the stresses would eventually reach a critical point and would constitute overtraining. This, in turn, would cause a slowdown in progress and, then, cessation of progress entirely. After a time, depending on the individual's rate of progress and the efficiency of his particular recovery ability, he would by necessity start training once every five or six days as his regular regimen. This last point, I have come to discover, is one of the most crucially important elements of anaerobic exercise science, and until now has been completely overlooked by everyone. Every other bodybuilding theorist - high-intensity or otherwise - has the trainee stay on the same volume and frequency protocol virtually forever. Once the fundamental principles are understood, the issue of progressively decreasing the volume and, especially, the frequency becomes the most pressing issue. If the bodybuilder bears this in mind, he will never reach a sticking point, there will be no need to periodize, and he will actualize his muscular potential in a relatively short time. A New High-Intensity Technique-Static Contractions Technically, a bodybuilder is a bodybuilder, not a weightlifter. As a bodybuilder your primary goal is not to lift heavy weights per se, but to achieve high-intensity muscular contractions as a means of inducing optimal growth stimula- PRAXIS r --r ^ &fi- 95 cation While it is true that to grow larger muscles one must increase his strength, such is not a bodybuilder's main purpose. A bodybuilder lifts progressively heavier weights in order to progressively increase the stress / intensity of his workouts - a prerequisite for growing progressively larger muscles. For the bodybuilder, in other words, lifting weights is the means, not the end. The science of productive bodybuilding exercise starts with a study and understanding of the nature of full, or highintensity, muscular contractions. Basically, muscles perform work by contracting, ie, reducing their length. And muscles contract in an "

ability. It's not that all of the fibers of a given muscle contract a little bit. No, only that percentage of the muscle's total fibers which are required, and these contract with 100 percent of their momentary ability, ie, all or none. As Arthur Jones pointed out, the only position where potentially 100 percent of a muscle's bulk could be activated is in the fully contracted position. Here is the logic: since muscles perform work by contracting, the only position where a muscle could be fully contracted would be in the fully contracted position, but only if sufficient resistance were imposed in the fully contracted position. In order to

Page 41

achieve optimal growth stimulation, a muscle would have to undergo a maximum, high-intensity contraction. This could only be achieved as a result of providing a muscle with a resistance sufficient to cause a full contraction of the muscle in the fully contracted position, such as at the top of a Curl, the straightleg, lock-kneed position of a Leg Extension, the contracted positions of the Pulldown or Pec Deck, etc. It is not cast in stone that a bodybuilder must limit himself merely to lifting weights. Remember, the skeletal muscles all have three levels of ability. The first is the positive, or lifting of $K \cdot 1 \cdot A^{96}$ HEAVY DUTY | the weight from the fully extended position to the fully contracted position, and it is the weakest of the three. The second level of ability is the static, or holding of the weight at any point in the range of motion such as the top, fully contracted position; static strength is considerably greater than positive strength. The third level is the negative strength, or the muscle's ability to lower the weight. Negative strength is by far the greatest. An individual who could curl a weight of 100 pounds for a maximum of one rep might be able to "hold" 130 pounds at any point in the range of motion, and lower under strict control 160 pounds. The degree of growth stimulation is related to the degree of inroad into functional capacity. When a person trains to positive failure, it might be said he made only one third of an inroad into functional ability; therefore, he stimulated one third of possible growth. By holding a weight in the fully contracted position to static failure and then finishing with a single negative, the degree of inroad into functional ability would be greater, with greater growth stimulation. However, the greater the degree of inroad into functional ability, the greater the inroad into recovery ability; Therefore, a decrease in the number of sets may be required to compensate for that greater inroad. Several months ago I began experimenting with static contractions. I had my in-the-gym clients shift the focus of their efforts from lifting the weights to failure to "holding to failure" in the fully contracted position, then lowering under strict negative control. I reasoned: since the fully contracted position is the only position where a full contraction could be achieved, and the weight that one can handle there is limited by how much his weaker positive strength can get into that position, let's eliminate the lifting of the weight entirely. I'll help my client into the contracted position with a weight heavier than he would handle for positive reps, and he'll hold to failure, ie, until

his static strength is exhausted. Then, as he notes his static strength is about to go, he starts a slow, controlled negative lowering of the weight. One of my regular gym clients improved his ability on the Nautilus Leg Extension such that in a very short period of time he went from 190 pounds for seven positive reps to 250 pounds (the entire weight stack) for 14 positive reps. He then remained stuck for three workouts at 250 pounds for 14 reps, whereupon I had him do three leg workouts in a row of only holding the weight stack of 250 pounds

Page 42

in the straight-leg, lock-knee position to failure and, then, lowering slowly. His first "static" workout he held the stack for about 15 seconds in the lock-knee position, the second workout for 22 seconds, and in the third workout he held for about 30 seconds. The next leg workout, I had him do conventional positive reps to see if there was a carry-over, and he performed 20 full-range positive reps! Take away an improvement. Now I have most of my clients in the gym, as well as my phone consultation clients make fully contracted "holds" to failure immediately followed by a negative in those exercises that allow it, and the results are impressive, to say the least. I attribute the highest progress of my clients recently, in part, to wineries that make a greater foray into existing strength than positive ones. Jones was the first, I believe, to describe the importance of making a deep foray into existing capacity as the cause of growth stimulation. With conventional high intensity training, where a set is driven to a positive failure, entry to existing capacity is nominal compared to a set worn with a weight greater than "retention failure" - including a negative. Why? Because like I said before, the positive is his weakest ability. Training to positive failure leaves considerable static and negative Force intact. The exercises where this technique can be used most successfully are isolation exercises, that is, those that involve rotational movement around a joint axis, and that provide resistance in the fully contracted position. For example: the Pec Deck; Lateral raise of the machine; leg extension and leg F Curl; and calf rearing. The compound exercise that I have used static holds with is the Close-Grip, Palms-Up Pulldown. The best machines to use are Nautilus as they were designed to provide full range variable resistance, with near perfect resistance in the fully contracted position. In most of the exercises where I have my training, the clients have fully contracted "reserves",

lower body exercises; then they have to bring it down under strict control. At first I had my clients make two wineries with two negatives. (downs). Now I have found that they do better with a negative and control, and at times, instead of having them perform the holds without the positives, I vary their workouts and have them perform a series of positive failures immediately followed by a hold to failure. And this works very well. What is possible? With a properly conducted high intensity training program, the individual will grow stronger with each workout, without any gap in such progress, until he has reached the upper limit of potential. I have had clients who were beginners. improve the functional capacity of your quadriceps in as little as two months from 170 pounds for seven repetitions to failure in the Nautilus leg extension, to the 250-pound stack set for up to 10 repetitions. That's a phenomenal increase. I have had a client perform up to 33 reps with 250 pounds on the same leg Extension Machine. And that was an incredibly well developed, advanced bodybuilder named David Paul, one of the twins of the famous acting duo known as the Barbarian Brothers. David is a genetic freak, with 99 Muscle Potential well above the average individual. When David trained with a while ago, he performed 15 reps in the Leg Extension with 250 pounds, to the 250 pound stack set for up to 10 reps. That's a phenomenal increase. I have had a client perform up to 33 reps with 250 pounds on the same leg Extension Machine. And that was an incredibly well developed, advanced bodybuilder named David Paul, one of the twins of the famous acting duo known as the Barbarian Brothers. David is a genetic freak, with a 99 Muscle Potential well above the average individual. When David trained with a while ago, he performed 15 reps in the Leg Extension with 250 pounds, to the 250 pound stack set for up to 10 reps. That's a phenomenal increase. I have had a client perform up to 33 reps with 250 pounds on the same leg Extension Machine. And that was an incredibly well developed, advanced bodybuilder named David Paul, one of the twins of the famous acting duo known as the Barbarian Brothers. David is a genetic freak, with a 99 Muscle Potential well above the average individual. When David trained with a while ago, he performed 15 reps in the Leg Extension with 250 pounds, one of the twins of the famous actor duo known as the Barbarian Brothers. David is a genetic freak, with 99 Muscle Potential well above the average individual. When I

Page 43

and then he immediately made his way, in superset form, to the Nautilus Leg Press, where he performed 18 reps with the full stack, 510 pounds, and that was his first stage workout with me as trainer. One week later David performed 27 reps on the same Leg Extension machine, and 38 reps with 510 pounds on the Leg Press. One week after that I have performed 33 reps on the Leg Extension with the stack, and 70 reps with 510 pounds on the Leg Press. No, this is not a misprint. David improved his Leg Press from 18 reps with 510 pounds to 70 reps with 510 as a result of two leg workouts that lasted 15 minutes each! That represents an improvement of 388 percent in the functional ability of the legs of an already advanced bodybuilder! In one month David gained seven pounds of muscle, a considerably greater rate of progress than he had experienced the previous five years while on a six-day-a-week, two-hour-a-day-plus program which resulted in a zero strength or size increase. If David was capable of such a phenomenal rate of improvement, imagine what the beginner might achieve on a proper program. If a beginner can improve the Leg Extension from a starting point of 170 pounds for seven reps to 250 pounds for 10 reps in under two months, he only has 20 or so reps to go before he achieved the enormous functional ability of a super genetic freak . Of course, if the beginner wasn't a genetic marvel himself, he would most likely never get close to 30 reps But with a properly conducted high-intensity program, he would be able to actualize his muscular potential in under a year. . ■ ,,,, ,,, Bear in mind If David was capable of such a phenomenal rate of improvement, imagine what the beginner might achieve on a proper program. If a beginner can improve the Leg Extension from a starting point of 170 pounds for seven reps to 250 pounds for 10 reps in under two months, he only has 20 or so reps to go before he achieved the enormous functional ability of a super genetic freak . Of course, if the beginner wasn't a genetic marvel himself, he would most likely never get close to 30 reps But with a properly conducted high-intensity program, he would be able to actualize his muscular potential in under a year. . ■ ,,,, ,,, Bear in mind If David was capable of such a phenomenal rate of improvement, imagine what the beginner might achieve on a proper program. If a beginner can improve the Leg Extension from a starting point of 170 pounds for seven reps to 250 pounds for 10 reps in under two months, he only has 20 or so reps to go before he achieved the enormous functional ability of a super genetic freak . Of course, if the beginner wasn't a genetic marvel himself, he

here that a prerequisite for growing age muscles is that they grow stronger. Since the individual I just described would cease growing stronger in less than a year, his muscle growth would also cease soon thereafter.

100 HEAVY DUTY || The Exercise of Restraint

If you have been training recently without any layoff prior to the time you intend to start this program, take a break from training entirely for at least two to three weeks. Having been overtrained, you made a deep - too deep - inroad into your recovery ability. It is important that the inroad has been overcome, so that when you start with a properly conducted high-intensity routine, your body has recovered all of the biochemical resources necessary for optimal growth production. When I suggest this to my phone consultation clients, many balk, and say in effect: "But, Mike, I'm addicted to exercise. I don't know if I'm able to stay away from the gym that long." And I respond rather firmly, "You have to make a decision. It's either / or. Either you are mindlessly addicted to exercise and the gym, or you are consciously, intelligently committed to achieving optimal progress, your life's goals, which requires the application of the necessary knowledge." On a lighter note, I conclude by stating, "If you are addicted to exercise, then exercise your free will, exercise your power of choice, exercise your knowledge, exercise restraint, but don't exercise your muscles for at least two weeks." Several months ago a young man called to inform me that he had bought my books, but had made no progress in the three months since he'd started HEAVY I don't know if I'm able to stay away from the gym that long. "And I respond rather firmly," You have to make a decision. It's either / or. Either you are mindlessly addicted to exercise and the gym, or you are consciously, intelligently committed to achieving optimal progress, your life's goals, which requires the application of the necessary knowledge." On a lighter note, I conclude by stating, "If you are addicted to exercise, then exercise your free will, exercise your power of choice, exercise your knowledge, exercise restraint, but don't exercise your muscles for at least two weeks." Several months ago a young man called to inform me that he had bought my books, but had made no progress in the three months since he'd started HEAVY I don't know if I'm able to stay away from the gym that long. "And I respond rather firmly," You have to make a decision. It's either / or. Either you are mindlessly addicted to exercise and the gym, or you are consciously, intelligently committed to achieving optimal progress, your life's goals, which requires the application of the necessary knowledge.

Page 44

DUTY training. I told him that there is a reason for everything in this world, including lack of bodybuilding progress, and that the number of possible explanations is not infinite. As it turned out, he had been training literally nonstop without a layoff for two years while working out two hours a day, six days a week. I told him that he not only dug a deep hole for himself, but that he had dug a hole to China! And that a layoff of at least one month was necessary before he could expect to make progress with HEAVY DUTY training. Recently there have been studies conducted at major universities which revealed that overtraining can be PRAXIS 101 en • I • t ; . ^ - " ■ : -. 1 yo 1 1 / - J 102 HEAVY DUTY || so severe it takes up to six months to fully recover. After your layoff, I suggest you start training once every four days, every 96 hours, in the fashion described below:

SUGGESTED ROUTINE #1

Monday: Chest 1. Pec Deck or Flat-Bench Dumbbell Flyes, superset with ... 2. Incline Press (preferably on a Smith machine). Back 1. Nautilus Pullover or Dumbbell Pullovers, superset with ... 2. Close-Grip, Palms-Up Pulldown. 3. Regular (not stiff-legged) Deadlift. **Friday:** Legs 1. Leg Extensions, superset with ... 2. Leg Press. 3. Standing Calf Raise. **Tuesday:** Delts 1. Dumbbell Laterals (preferably Nautilus Laterals). 2. Bentover Dumbbell Laterals (preferably Pec Deck). Arms 1. Standing Barbell Curl (preferably Nautilus Curls). 2. Tricep Pressdowns, superset with ... superset with ... 2. Close-Grip, Palms-Up Pulldown. 3. Regular (not stiff-legged) Deadlift. **Friday:** Legs 1. Leg Extensions, superset with ... 2. Leg Press. 3. Standing Calf Raise. **Tuesday:** Delts 1. Dumbbell Laterals (preferably Nautilus Laterals). 2. Bentover Dumbbell Laterals (preferably Pec Deck). Arms 1. Standing Barbell Curl (preferably Nautilus Curls). 2. Tricep Pressdowns, superset with ... superset with ... 2. Close-Grip, Palms-Up Pulldown. 3. Regular (not stiff-legged) Deadlift. **Friday:** Legs 1. Leg Extensions, superset with ... 2. Leg Press. 3. Standing Calf Raise. **Tuesday:** Delts 1. Dumbbell Laterals (preferably Nautilus Laterals). 2. Bentover Dumbbell Laterals (preferably Pec Deck). Arms 1. Standing Barbell Curl (preferably Nautilus Curls). 2. Tricep Pressdowns, superset with ...

Page 45

3. Dips. PRAXIS 103 Saturday: Legs 1. Leg Extensions, superset with ... 2. Squats (preferably in a Smith machine). 3. Calf Raises. Wednesday: Start the four-workout protocol over with chest and back. ■ ; *. # 104 HEAVY DUTY || Important Points 1. Number of Sets: Perform only one set of each listed exercise. If you're having a difficult time with the idea of one set, think of it as 100 units of intensity. Remember, only one sperm from your father was required to stimulate the growth of your mother's ovum into a fully fashioned human baby, it only takes one bullet to kill you. It only takes one set to failure to trigger the growth mechanism into movement. Any exercise carried on beyond what is required to stimulate growth is overtraining, your worst enemy. 2. Superset: There should be no rest, or very little, between exercises listed as a superset. And seek to minimize the rest between sets not listed together as a superset. Do not, however, allow the workout to degenerate into a race against the clock. At the same time, don't malingering either. Rest just long enough so your breathing slows down to the point that you may resume training with maximum efficiency on the next set. If, in the beginning, you find that the supersets are too demanding with no rest in between, take a 30-second break before moving to the compound movement, as with the Leg Press in the Leg Extension-Leg Press superset. Over a period of time, as your anaerobic endurance improves, progressively decrease the rest time between all sets. 3. Number of Reps: Perform 6-10 reps to failure on all of the exercises listed above except the following: Incline Presses, do 1-3 reps (to failure); Dips, do 3-5, and if you can do more than five with your bodyweight, add weight; Standing Calf Raises, perform 12-20 reps. Use static training in the manner described previously. 4. Frequency: Train once every 96 hours, or four days. Monday's chest and back workout is listed as workout #1; Friday's leg workout is listed as workout # 2; the next Tuesday would be workout # 3, and Saturday is workout # 4. Four days after workout # 4, start over with chest and back, and repeat PRAXIS 105 the fourworkout protocol. Whenever a scheduling conflict makes it impossible to get into the gym on that fourth day, wait one more day - go to the fifth day instead of the third. 5. Proper Exercise Performance: For the best results, perform all of the exercises through a full range of motion in a reasonably strict manner. Initiate each rep deliberately, with no sudden jerking or yanking, proceed under strict muscular control through the positive range of motion, pause, and lower under control. Two

Page 46

major exceptions here are the Bentover Barbell Rows and Dumbbell Laterals. Because of the physics involved (disadvantageous leverage factors), use a slight hitch, or snap, to get the weight moving, but muscle it up thereafter. A slight hitch, or cheat, may also be employed on the last rep or two when doing Barbell Curls. With the vast majority of exercises, the rule of thumb is: lift, hold, and lower under control. 6. Training to Failure: Many bodybuilders fail to

achieve optimal results due to their reluctance to train to a point of momentary muscular failure. Contrary to widespread opinion, the last rep of a set carried to failure is not the most dangerous. In fact, it should be the safest, because by the last rep you are actually at your weakest, barely able to generate enough force to complete it. It is the first few reps, when you are strongest and able to generate more force than required to move the resistance, which are most dangerous.

7. Proper Weight Selection: It is suggested that you select a weight for each exercise that allows for the performance of the number of reps advocated, and in the manner described. Never terminate a set, however, just because a prescribed number of reps has been completed. The range of 6-10 is offered merely as a guideline, because fewer than six will not tax your reserves sufficiently, and more than 10 could cause you to terminate the set prematurely due to cardiorespiratory insufficiency before muscular failure is reached. No one can even begin to state with any certainty just how much weight should ideally be used in static "hold" training. I have been seeing worthwhile results in the upper body exercises by selecting a weight that allows the individual to hold the contracted position for 8-12 seconds, and in the lower body a weight that allows for a hold of about 10 to 30 seconds. The weight will vary, of course, depending on whether you do statics alone or at the end of a set of positives.

8. The Pre-Stretch: Try to pitch a baseball from chest level without the usual windup. Observe how high you can jump vertically without the preliminary quick drop into the crouch. You will see your baseball land but a short distance away, and your upward leap will get you barely off the ground. The essential factor missing in these examples, accounting for substandard performance, is the pre-stretch. Known technically as the myotatic reflex, the pre-stretch can be used effectively in any exercise where a full extension with a slight additional stretch can be achieved safely. Examples are Preacher Curls, Nautilus Curls, Dumbbell Flyes, most Presses, Dips, Squats, Leg Presses, Pressdowns, etc. To use the pre-stretch, lower the weight under control, and then, suddenly, a couple of inches away from full extension, pick up the speed through to the fullest extension you can safely reach; whereupon you quickly reverse the direction of the movement upward. This extra stretch, accompanied by a quick contractile effort to move the weight in the opposite direction, sets up a strong neurological impulse that will make for a more intense and, hence, more productive contraction.

9. The Intensity Factor: Carrying a set to a point where you are forced to utilize 100 percent of your momentary muscular ability is the single most important factor in increasing strength and size. Working to a point of momentary muscular failure, where another rep is impossible despite your greatest effort, ensures that you pass through the "break-over" point, or that point in the set below which sets up a strong neurological impulse that will make for a more intense and, hence, more productive contraction.

9. The Intensity Factor: Carrying a set to a point where you are forced to utilize 100 percent of your momentary muscular ability is the single most important factor in increasing strength and size. Working to a point of momentary muscular failure, where another rep is impossible despite your greatest effort, ensures that you pass through the "break-over" point, or that point in the set below which sets up a strong neurological impulse that will make for a more intense and, hence, more productive contraction.

9. The Intensity Factor: Carrying a set to a point where you are forced to utilize 100 percent of your momentary muscular ability is the single most important factor in increasing strength and size. Working to a point of momentary muscular failure, where another rep is impossible despite your greatest effort, ensures that you pass through the "break-over" point, or that point in the set below which

growth will not be stimulated, above which growth will be stimulated. Some ask the question whether it is actually necessary to train to failure, where 100 percent intensity of effort is required to complete a rep, in order to stimulate an increase. They say that maybe only 62-percent, or 87-percent, or 92-percent intensity of effort is all that is required. The problem here would be in measuring intensity. The fact that there are only two accurate measures of intensity - 0 percent, when you are at complete rest, and 100 percent, when you are exerting yourself maximally - makes it necessary that you train to failure. So long as you're exerting yourself 100 percent, you have passed through every possible break-over point. This is true whether you are training in the conventional fashion to positive failure, ie, lifting to failure, or with static training, where you are holding to failure.

10. Pre-Exhaustion: With many conventional exercises, it is not always possible for the muscles involved to exert 100 percent of their contractile ability because of the involvement of "weak links." When performing Incline Presses, for example, the working of the pecs is limited due to the involvement of the smaller and, hence, weaker triceps. The triceps would give out and a point of failure in the Incline Press would be reached well before the bigger, stronger pecs are exhausted. Weak links such as this can be overcome by performing an isolation exercise prior to a compound exercise. Carrying an isolation exercise, such as Dumbbell Ryes, Cable Crossovers or Nautilus Pec Deck, to failure with the pecs while preserving much of the strength of the triceps. By the time you get to the Incline Press, the situation will be temporarily reversed. Now the triceps, instead of being weak links have a temporary strength advantage and will serve the pre-exhausted pecs, which can now exert 100 percent of their momentary ability in the Incline Press, and thus achieve full growth stimulation. Pre-exhaustion is merely one technique which, while effective, doesn't necessarily have to be used all year around. Most important is that you never deviate from the fundamental, guiding principles. I have found that performing the Pullover-Pulldown superset for the lats doesn't work well when done every Day # 1 workout. Perform the superset one workout and the next time do just Close-Grip, Palms-Up Pulldowns.

11. Rep Modality: As described earlier, in the section on static training, the skeletal muscles all have three levels of functional ability - positive, static and negative. It is not cast in stone that one must merely "lift" weights (positives). A bodybuilder can mix positive training with static training and negative training. Or, at times, I may do one to the exclusion of the other two. The type of rep modality a bodybuilder chooses will depend on a number of factors, including age, existing condition, time training, and goals. I would suggest that beginners start on a bare-bones, baseline program, using the routine listed earlier, of "positive only" training where they merely carry each exercise to a point of positive failure, then cease the set. After a few months of regular training, they might consider adding static / negative training as outlined. Advanced bodybuilders may consider adding some "negative only" training on some exercises. Foregoing the positive and static work entirely, start the exercise in

the contracted position. With the help of spotters, raise a weight into the contracted position that is about 25-40 percent heavier than you could handle for

Page 48

6-10 reps to positive failure. At the top, have them transfer the weight carefully so you don't injure yourself; then lower slowly to full extension. The lowering should take about six seconds, and don't perform more than five or six reps. Be especially careful, and don't attempt to go to full negative failure. Terminate the set one or two reps shy of failure. It was discovered, in research conducted by Arthur Jones in the early 1970's, that negative training could be very productive. I have found with my personal clients, however, that including forced and / or negative reps at the end of every positive set leads quickly to overtraining. So I have my clients use them on a random basis. On some sets they'll do one or so forced reps at the end of a set of positives; on other sets, they do one negative at the end of a set of positives, or static holds. They are best employed when feeling particularly well rested - with motivation and energy at a pinnacle. Do not forget that static and negative training are more productive than positive training because of the greater inroad they make into functional ability; however, the greater the inroad into functional ability, the greater the inroad into recovery ability, making overtraining a greater likelihood. Use them with care, and don't make the stupid mistake of attempting to integrate static and negative training with the blind, non-theoretical volume approach.

12. Warming Up: Make sure that you spend some time warming up the muscles that are to be trained each workout. It is not necessary, however, that you stretch all the major muscles, perform aerobic work, or engage in any more exercise than is minimally required to limber up and increase the flow of blood to the specific joints and muscles you're working on a particular day. It is impossible to prescribe a universal, sure-fire warm-up prescription, one that will fit everybody. Warm-up needs will vary according to the individual's age, existing physical condition, and, of course, the temperature of the gym. There is a guiding principle, however, that will serve everyone. Perform any amount of warming up that you believe to be minimally required so that you may proceed to the heavier, more intense portion of the workout without hurting or injuring yourself.

13. High-Intensity, Low-Force Exercise: The workout routine suggested above is very safe. There have been a number of allegations leveled against Heavy Duty training especially with regard to safety, claiming that it is dangerous to the joints and risks muscle tears. This is not a typical powerlifting program involving the use of very heavy weights permitting only 1-3 reps to failure. That would be a high-intensity, high-force program. The level of force imposed on the joints and connective tissue would be very high; if extreme caution was not exercised, and any bouncing, jerking or yanking occurred, the impact forces (G-force) could multiply several times beyond that of the actual weight itself. The program suggested in this book is a high-intensity, low-force. This is not a typical powerlifting program involving the use of very heavy weights permitting only 1-3 reps to failure. That would be a high-intensity, high-force program. The level of force imposed on the joints and connective tissue would be very high; if extreme caution was not exercised, and any bouncing, jerking or yanking occurred, the impact forces (G-force) could multiply several times beyond that of the actual weight itself. The program suggested in this book is a high-intensity, low-force. This is not a typical powerlifting program involving the use of very heavy weights permitting only 1-3 reps to failure. That would be a high-intensity, high-force program. The level of force imposed on the joints and connective tissue would be very high; if extreme caution was not exercised, and any bouncing, jerking or yanking occurred, the impact forces (G-force) could multiply several times beyond that of the actual weight itself. The program suggested in this book is a high-intensity, low-force.

bodybuilding routine which involves a weight that, in most of the exercises, allows for up to 10 reps to failure. With such an approach, the forces involved are low to moderate and, thus, quite safe. In addition, the first of many reps of a set of 10 reps to failure would serve as a further warm-up. Having trained close to 2000 clients over the last six years, there was never once an injury! So much for the issue of the safety of Heavy Duty. 14. Keep a Progress Chart: Do not evaluate your workouts by the standard of

Page 49

"feeling." Achieving a muscular pump or soreness are not indications that you had a successful workout. Everyone I see training at Gold's Gym in Venice, Calif., (Where I conduct my personal training business) gets pumped every time they work out. And I've seen some of those people in there every day for years. If achieving a pump was a sure-fire indication that growth was stimulated, many of them would have 25-inch arms by now since they get pumped every workout. And regarding soreness, the only time I ever got sore was upon resumption of training after an extended layoff. If getting sore was necessary, somehow, to build big muscles, I never would have been Mr. Universe. Feelings, as such, tell you little or nothing about the success of a workout. Especially soreness, which is still a mystery - no one knows what causes it, or what significance it may have, if any other than it hurts. And what if you thought that getting sore was necessary, and you didn't get sore? What would you do try to get sore? We didn't send men to the moon on the basis of feelings or gut hunches. As my good friend John Little responded when he read an editorial in Muscle & Fitness by Tom Deters about the alleged superiority of "feeling" and gut-hunches over theoretical science: "I think that in cases like Tom Deters, the feeling he gets from a gut-hunch is most likely trapped stomach gas. " A gut feeling, whatever its cause, would have to be conceptually identified, so it becomes an intellectual matter of theory and science anyway. Feelings, or emotions, are not tools of thought; concepts are.

Emotionalists, people who rely on their feelings to guide them in reality, are in a bad way because an emotion does not provide the individual with independent intellectual access and understanding of reality. An emotion is merely a psychosomatic response to something in reality. It tells you nothing about reality other than that something made you feel something. Therefore, they are not reliable guides. Emotions, for the rational individual, are his means of enjoying life. The only proper way to gauge the success of any workout is by the standard of strength increases. If you're stronger the next workout, obviously there is a positive change taking place in the muscle. And as you continue to grow stronger and eat adequately, you'll grow larger. Keep a progress chart: record the date of each workout, list the exercises, the weights used, and accurately record the number of reps. Be conscientious regarding that last point. Accurately record the number of reps, since even a one-rep increase may be significant. Let's say, for instance, you

can presently curl 120 pounds for 10 reps, and you increase "only" one rep every other week for a year. By the end of the year, you'd be curling 120 pounds for 34 reps, something probably few in the world could do! And don't judge progress solely in terms of linear number increases, but also by percentage 112 HEAVY DUTY „PRAXIS 113 increases If you go from 25 pounds to 30 pounds in the Lateral Dumbbell, for instance, that would be a considerably greater increase than going from 100 pounds to 105 pounds in another exercise. It would be a 20-percent increase as opposed to only a five-percent increase, and that's how it should be assessed. 15. Regulating Volume and Frequency: As an individual grows stronger week to week, and lifts progressively heavier weights, the stresses grow progressively greater, too. If he doesn't

Page 50

increasing stresses, they will eventually reach a critical point and constitute overtraining; progress will initially slow down and, ultimately, will cease entirely. That's when you hit what is commonly referred to as a "sticking point." There was a time when I thought that reaching a sticking point in training was inevitable. I was wrong. If you keep in mind all the while the point made above that as the weights grow greater, the stresses grow greater, and you must periodically compensate for them - a sticking point won't be reached. This is rather simple to do. Before any signs of overtraining ever become manifest, periodically drop a set from a workout. For example, every third workout or so for the arms, you could drop either the Pressdowns or Dips for the triceps - and do just one or the other of those two exercises. While some may be tempted to say that a one-set decrease can't make all that much difference, consider that when doing an abbreviated workout of only 3-5 sets, one set less represents a major decrease in volume - and that much less of an inroad into recovery ability. You may also periodically substitute a less demanding, ie, less stressful, exercise for a more demanding one. For instance, periodically drop the Deadlift, a very demanding exercise, and do Shrugs instead The Deadlift is probably the most stressful exercise of all, because it involves more total muscle mass than any other exercise Doing Shrugs occasionally will help conserve YO: yo recovery ability . Most important of all is that you periodically insert added rest days. Every other cycle of the four-workout protocol, randomly insert an extra rest day or two so that there are five rest days instead of four. And over a period of 3-4 months, start adding the extra rest days more frequently until you're eventually training only once every five or six days. After 6-9 months, depending on individual genetics and previous training history, you will be training only once every 6-7 days, or even less frequently. (Don't worry about decompensation for the reasons explained in Chapter Four.) If the program suggested above doesn't yield significant results within 4-6 weeks, you may be a "midget of recovery ability" requiring a more abbreviated routine, such as the one After 6-9 months, depending on individual genetics and previous training history, you will be training only once every 6-7 days, or even less frequently. (Don't worry about decompensation for the reasons explained in Chapter Four.) If the program suggested above doesn't yield significant results within 4-6 weeks, you may be a "midget of recovery ability" requiring a more abbreviated routine, such as the one

suggested on page 129. Ultimately everyone, no matter what the genetics, will have to reduce the volume and frequency of training to the point where you're training only once a week, or less, and using only two to three sets of primarily compound movements. Employing such measures will prevent a sticking point, and see you on the way to actualizing your full muscular potential within a relatively short period. As I stated before, the science of exercise is not infinitely complex, but it is not so simple that you can semiconsciously select routines at random from a muscle magazine and expect any worthwhile results. Don't leave your life and the achievement of your goals to chance. Use your newly gained theoretical knowledge, consciously control your life, and achieve your full human stature. 16. The Purpose: This program was designed for the exclusive purpose of marshalling all of the body's energy and resources to achieve maximum growth in your major muscle groups. Any exercise conducted beyond what is suggested will compromise your progress, resulting in less-than-optimal development. 115 When I outline this program for my phone consultation clients, some comment on

Page 51

the fact that Leg Curls are not included, or Seated Calf Raises, or Bench Presses or Concentration Curls - to name a few. And I point out that doing so many exercises was one of their major training mistakes and the reason why they made no progress. Just because an exercise exists, it doesn't mean it has to be performed all year round. I tell them they should first achieve their goal of maximum mass, then worry about the details. Besides, it isn't really necessary to worry about doing Leg Curls for the hamstrings since the Deadlift, Leg Press and Squat stimulate them sufficiently. And remember, Curls aren't the best exercise for biceps; Close-Grip, Palms-Up Pulldowns are. 17. Aerobics and Abdominal Training: Aerobic training has been inordinately emphasized in the media because more people are willing to do it than weight training. Aerobic training does not develop total fitness, which is comprised of several elements, including skeletal muscle strength, flexibility, anaerobic endurance, maintenance of lean body mass, speed, and the improved self-esteem from having achieved all of that. In fact, aerobic training can detract from total fitness as it not only doesn't develop uniform skeletal muscle strength, it actually creates imbalances in the musculo-skeletal system by overworking certain muscles to the exclusion of others. This can lead to a reduction in flexibility and the increased likelihood of injuries. If your goal is to develop maximum muscle mass in the shortest possible time, eliminate aerobics - at least for a moment. Dropping aerobics for six months to a year will not result inevitably in a heart attack. And if you've been overtraining for months or years by doing both aerobic and anaerobic training, dropping aerobics entirely for a period of time is the best thing you could do for yourself. In my previous book, I made the point that the human body has 100 units of adaptive energy available, period.

It's not as if there are 100 units available for adaptive increases in strength and size on one hand, and 100 units available for increases in aerobic endurance on the other. There are only 100 units; if you divide it between the two, you obtain mixed results at best. And most bodybuilders, knowing nothing about the need to precisely regulate the volume and frequency of both, overtrain in both areas, and end up failing to achieve either increased muscle or endurance. They grow weaker and are chronically fatigued. Training guided by mixed premises is not nearly as productive as adaptive-specific training. Speaking of adaptive energy available, let's talk for a moment about abdominal training. Most of the people I speak with daily have been training for some time - years and decades. Their abs are already in decent condition, even if covered by a layer of fat. In such cases, I suggest ab training be dropped for a while as the exercises listed in this program provide the abdomen with considerable indirect training stimulus. Many of my in-the-gym clients, for instance, complain of sore abs after doing Tricep Pressdowns. The program I've recommended will at least maintain, if not improve, existing abdominal condition. Conserve the body's energy and resources you'd otherwise use in ab training for greater growth in the major muscle groups. If you are particularly concerned about the condition of your abs, or have a contest coming up, then train them. Remember, however, that the abdominals are skeletal muscles just as the pecs, lats, biceps, etc. Therefore, they respond to the same type of stimulus - high-intensity. Train abs only on leg day, doing one set of Incline Bent-Knee Situps for 15-25 reps to failure. Once you can do 25 or more, hold a weight at your chest so you're back to 15-25 again. 18. Choice of Exercises: The exercises listed were chosen for specific reasons.

Page 52

This does not mean they can't be substituted by others periodically. I would do so, however, methodically. Start with the program as listed, and continue with it as is for 2-3 months. After a time, you may switch exercises, as long as you remain true to the basic principles. For example, PRAXIS 117 with pec training, the first exercise should always be an isolation exercise such as Dumbbell Flyes, Pec Deck or Cable Crossovers. Never start a superset with a compound exercise. The second exercise in the case of pecs should always be a compound exercise such as Incline Presses, Bench Presses, or Dips. If you start with Dumbbell Flyes for the isolation exercise, substitute Cable Crosses or Pec Deck after a while. And if you started with Incline Presses, go to the Bench Press later on. If you started with Close-Grip, Palms-Up Pulldowns for lats, try Bentover Barbell Rows eventually. Or if you have a shoulder problem and you can't do Pulldowns at all, start with Rows of some sort, either some type of machine row or the Bentover Barbell Row. Use common sense and your best judgment. 19. Equipment: Several months ago, a young man was watching me from a distance as I trained my clients. He seemed intent in his observing, and

when I'd finished with the last person, the young man walked over and said, in a slightly derogatory tone, "Well, Mentzer, I see you like machines." And I quickly replied, "Yes, as a matter of fact, I arrived here in a machine called an automobile. And this morning, I had my coffee from a coffee machine. I love my big screen television, electric lights, the dentist's drill, the surgeon's tools. You may have heard, we had this thing called the Industrial Revolution. Scientific technology and mechanization have benefited man in every aspect of his existence, including resistance training. I have been a longtime advocate of Nautilus. Compared to just about every other piece of equipment in most gyms, the Nautilus Machine is a precision, scientific instrument. Machines in general have received considerable bad press usually from the concrete-bound, Neanderthal types paid or denigrate them by the purveyors of free weights. Such

For instance, if the Nautilus Pec Fly is available, use it rather than Dumbbell Flyes; if the Nautilus Leg Extension is available, use it rather than any other machine; or if there's a Nautilus Deltoid Lateral Machine in your gym, use it instead of doing Dumbbell Laterals. And even then, of course, it's alright to periodically substitute freeweight exercises for variety and a different stimulus. I don't advocate the use of any other machines except the Hammer and s alright to periodically substitute freeweight exercises for variety and a different stimulus. I don't advocate the use of any other machines except the Hammer and s alright to periodically substitute freeweight exercises for variety and a different stimulus. I don't advocate the use of any other machines except the Hammer and

Page 53

MedX exercise machines, since most of the others are grossly inferior. If you have any of the Nautilus, Hammer or Medx Machines available in your gym, use them as they are the only ones that provide full-range resistance. When recommending exercises for people, I usually suggest free-weight exercises since free weights predominate in most gyms around the world. 20. The Role of Genetics: While the fundamental principles of high-intensity training are applicable to all, there does exist a wide range of individual response to such training. Individual response is determined largely by genetics. (Motivation plays a key role, too. More on motivation shortly.) While potential can only be assessed accurately in retrospect, there are certain indices (genetically mediated, physical traits) that will provide a strong suggestion what an individual's potential might be. These include bone size, length of muscle belly,

efficiency of recovery ability, and muscle fiber density. Also important, but less amenable to visual scrutiny, is the individual's array of genetic / physiologic traits that serve to regulate the rate and degree of response to exercise. I am referring to those traits whose specific task is to temporarily shut off the process of muscle growth that occurs in response to singular bouts of intense exercise, and then permanently once individual potential has been fully actualized. These regulatory traits, like most genetic traits, are expressed across a broad continuum, which helps explain why there exists such a wide range of variation regarding individual response to intense exercise. Every now and then, one of my clients will complain about his or her "poor genetics." Often they will grumble on and on, as if reading a list of metaphysical complaints to the Omnipresent Deity, hoping for a redress of grievances. "Oh, my calves. The muscle bellies are so short. If only I had calves like so-and-so. Y my biceps. Oh, woe is me. My poor biceps." My typical response is that if they persist in their complaining, I'll gladly take them to the Venice Beach Strand and introduce them to my acquaintance named Jerome. Jerome was born with a genetic disorder that left him without arms or legs, and he makes his living dancing to music - on the stubs that should have been his legs. That's poor genetics. (Interesting, however, despite his being malformed, I've never been in Jerome's presence when he seemed malcontent.) Don't fret unnecessarily over the issue whether you were born blessed or accursed with regard to genetic endowment. It is an issue, remember, that can only be assessed accurately in retrospect. I can clearly recall having seen a photo in one of the old muscle magazines of Mr. Universe Roy Callendar before he started training. He looked like an Auschwitz victim. Having looked at that photo, one might have been prompted to say that this individual would be wasting his .me .. ^ he thought it were possible to ever become a bodybu ^ nġ jham pion m fact, when in condition, Roy was the heaviest muscled 120 HEAVY DUTY II PRAXIS 121 man I've ever seen. You will never know for sure what your potential is unless you train intelligently, employing the proper high-intensity training methodology. 21. Motivation: While the workout suggested here is briefer and less frequent than most people are accustomed to, the moment-to-moment demands are of a that can only be assessed accurately in retrospect. I can clearly recall having seen a photo in one of the old muscle magazines of Mr. Universe Roy Callendar before he started training. He looked like an Auschwitz victim. Having looked at that photo, one might have been prompted to say that this individual would be wasting his .me .. ^ he thought it were possible to ever become a bodybu ^ nġ jham pion m fact, when in condition, Roy was the heaviest muscled 120 HEAVY DUTY II PRAXIS 121 man I've ever seen. You will never know for sure what your potential is unless you train intelligently, employing the proper high-intensity training methodology. 21. Motivation: While the workout suggested here is briefer and less frequent than most people are accustomed to, the moment-to-moment demands are of a that can only be assessed accurately in retrospect. I can clearly recall having seen a photo in one of the old muscle magazines of Mr. Universe Roy Callendar before he started training. He looked like an Auschwitz victim. Having looked at that photo, one might have been prompted to say that this individual would be wasting his .me .. ^ he thought it were possible to ever become a bodybu ^ nġ jham pion m fact, when in condition, Roy was the heaviest muscled 120 HEAVY DUTY II PRAXIS 121 man I've ever seen. You will never know for sure what your potential is unless you train intelligently, employing the proper high-intensity training methodology. 21. Motivation: While the workout suggested here is briefer and less frequent than most people are accustomed to, the moment-to-moment demands are of a

Page 54

much greater magnitude; Therefore, it is imperative that you keep your motivation high throughout. In Heavy Duty I, I, explained that motivation is fueled by the desire to gain and / or keep a value. How much value you perceive in achieving a goal - such as acquiring a more muscular physique -will determine how much motivational fuel you'll have for the task. If you find it difficult to summon the motivation necessary for your Heavy Duty workouts, then you are not convinced "all the way down" about the value, or importance, of achieving a more muscular physique. Sit down with pen and paper, and write about your thoughts concerning how gratifying it would be to gain strength,

muscular size and a better self-image. Not just one sentence, but a paragraph or page. Reflect back to those moments when you felt most desirous of having larger muscles. Note the reasons, write them down, expand on them; as you do, you'll re-experience some of the associated emotions. Emotions are automated value-responses which indicate how much a given individual perceives either the beneficial or harmful aspect of some part of reality in relation to himself. The more beneficial he perceives something to be, the greater the intensity of the emotional / value response, the greater the motivation to acquire that thing. The less value he perceives, the lesser will be his motivation. Acquiring and maintaining motivation is something that no one can do for you. Nature requires that you go through the thought process necessary to effect the development of proper motivation. And the quality of your motivation will be determined by the quality of your thinking.

22. Advanced High-Intensity Techniques: There are numerous techniques for increasing the intensity / stress of your workouts. These include forced reps, cheat reps, partial reps, negatives, static holds, hyper training, rest-pause and others. These must be used with caution, because for every increase in intensity, there must be a corresponding decrease in volume. As the intensity increases, the inroad into recovery ability grows deeper. And if you don't keep this in mind, overtraining will set in faster than you can imagine. I use many of these techniques from time to time with my clients, but sparingly! One of the first lessons I learned as a trainer six years ago was that the inclusion of forced reps and negatives with every set of every exercise resulted in overtraining almost immediately. Because of the wide range of individual body types and goals people have, it would not be practical to attempt to offer a comprehensive analysis here of how to employ these techniques. Simply start out on the baseline program we have suggested. Remain with that for up to three months, then experiment with adding any one of these different techniques periodically. How will you know if a particular technique is working? By keeping close tabs on your training progress chart.

23. Nutrition: All issues and subjects in life ultimately can be understood quite readily in terms of basic principles. In bodybuilding, they are: 1) Train hard; 2) Don't overtrain; 3) Get adequate rest; and 4) Eat a well-balanced diet. As much confusion as there is on the subject of training, there is as much, if not more, on the subject of nutrition. But, in fact, the subject of nutrition is quite simple, and I'm not trying to oversimplify it even slightly when I state that your primary concern should be to obtain a well-balanced diet on a daily basis. , ■ ,

„ Ours has been called an "Age of Complexity," with intellectual confusion as its primary characteristic. This is the result of people not learning to think in terms of

answer specific, concrete questions Without such a fundamental base questions continue to arise with no method for answering them 'whether the subject is ethics, politics, training - or nutrition. The principle of a well-balanced diet is the fundamental that should guide your daily nutritional program. A well-balanced diet, by definition, is one that satisfies all your nutritional needs. And the human body does not utilize nutrients beyond satisfaction of "need." For instance, if you need 25 mgs. of Vitamin C a day (which is all you need, according to all the reputable nutritional scientists), and you take a Vitamin C tablet that provides you with 1000 mgs. or more, the excess will not somehow force your body to use even one more milligram than it needs, ie, 26 mgs a day. This leads logically to the question: what do I need nutrients and calories for? First of all, you need calories and nutrients to maintain your health and existing mass; second, to provide for the production of muscle growth. Since muscle growth day to day will rarely exceed one half pound, you won't have to increase your nutritional intake more than 300-500 calories above daily maintenance. (One pound of muscle yields approximately 600 calories.) No matter what your daily calorie budget might happen to be, 60 percent should be carbohydrates, 25 percent protein, and 15 percent fats. The reason for the predominance of carbohydrates is that sugar is the preferred fuel source of the neuromuscular system, the most efficient fuel for high-intensity muscular contractions Also, the brain lives almost entirely off of sugar, deriving 99 percent of its nutrition from that food substance. The suffix "hydrate" means water. And muscle tissue is not mostly protein, but water -72 percent, to be precise. Glucose (sugar) is stored in the muscle as a polymer (a chain of glucose molecules) called glycogen. And it is primarily the glycogen that keeps the water in the muscle 123 cell - three grams of water bond chemically to every gram of glycogen stored in the muscle tissue. Protein is still important, of course. It is a maintenance, repair and growth substance that must be taken in sufficient quantity to ensure optimal muscle growth. Indulging indiscriminately in massive excesses of protein beyond maintenance and daily growth requirements will not "stimulate" lean mass increase, or force you to grow any faster had you merely satisfied "need." Fats are not nearly the bogeyman some make them out to be. They play an important role in proper nutrition - in sheathing the nerves, synthesizing many enzymes, and in helping the digestive process. Unless you are suffering from elevated cholesterol, and your physician prescribes a reduction in fats, don't take in less than the recommended 15 percent. So make a reasonable effort every day to obtain a 60:25:15 ratio of carbs to protein to fats. This can be accomplished fairly easily by getting your daily complement from the Four Basic Food Groups: 1) Cereals and Grains; 2) Fruits and Vegetables; 3) Meat, Fish and Poultry; and 4) Milk and Dairy Products. t take in less than the recommended 15 percent. So make a reasonable effort every day to obtain a 60:25:15 ratio of carbs to protein to fats. This can be accomplished fairly easily by getting your daily complement from the Four Basic Food Groups: 1) Cereals and Grains; 2) Fruits and Vegetables; 3) Meat, Fish and Poultry; and 4) Milk and Dairy Products. t take in less than the recommended 15 percent. So make a reasonable effort every day to obtain a 60:25:15 ratio of carbs to protein to fats. This can be accomplished fairly easily by getting your daily complement from the Four Basic Food Groups: 1) Cereals and Grains; 2) Fruits and Vegetables; 3) Meat, Fish and Poultry; and 4) Milk and Dairy Products.

It's interesting to note here that many bodybuilders are not merely wellnourished, but grossly over-nourished; yet they still don't see satisfactory results from their training efforts. This only serves to underscore the point that training is the first, primary requirement, while nutrition is secondary. In other words, it is only in the context of having employed the proper training method that nutrition becomes a consideration. And even then it is quite simple - make a reasonable effort to consume a well-balanced diet. If you recognize that you are not able to consume a well-balanced diet on a daily basis, or you suspect there is a deficiency somewhere, consider using a supplement. There is some evidence to suggest that, even with a well-baanced diet, it is almost impossible to get enough of certain nutritional 124 HEAVY DUTY || PRAXIS 125 substances One of then is creatine, an important component in the phospho-creatine compound within the muscle itself necessary for maximum energizing. I first started hearing about the positive effects of creatine over a year ago as a remarkably large number of my phone consultation clients began reporting to me - unsolicited - that whenever they took it they trained better and gained better. I found this astonishing as I don't recall ever, in all my years of bodybuilding, having heard such a redounding endorsement of any supplement I first started hearing about the positive effects of creatine over a year ago as a remarkably large number of my phone consultation clients began reporting to me - unsolicited - that whenever they took it they trained better and gained better. I found this astonishing as I don't recall ever, in all my years of bodybuilding, having heard such a redounding endorsement of any supplement I first started hearing about the positive effects of creatine over a year ago as a remarkably large number of my phone consultation clients began reporting to me - unsolicited - that whenever they took it they trained better and gained better. I found this astonishing as I don't recall ever, in all my years of bodybuilding, having heard such a redounding endorsement of any supplement

- and that's saying something. And while such would be endorsement enough for most, I remained. When I was approached by the owner of a leading supplement company about lending my personal endorsement to their creatine product, I expressed my skepticism to him. He responded emphatically that the reason he wanted me above anyone else to endorse this product was because of my strict adherence to science in bodybuilding, and that this was the one supplement that had the greatest scientific / medical research backing it. He lauded my skepticism as a reflection of my integrity, which he emphasized was respected industrywide, and explained why he thought this would be the perfect product to which to lend the name of Mike Mentzer. The owner of the supplement company knew that my main thrust with regard to nutrition was that the individual should seek to consume a well-balanced diet on a daily basis. And he agrees. I have then explained that the research indicated that even when consuming a well balanced diet, which includes up to two pounds of red meat (which is high in creatine) on a daily basis, it was not enough to "load" the muscles with creatine. I responded by noting that I never claimed to have comprehensive knowledge of supplement nutrition, and that what I had just explained certainly sounded plausible. As a testament to his honesty and good business ethics, he said he did not want me to accept the endorsement offer I 126 PUBLIC WORKS || on his varbal recommendation of the substance alone;

High intensity anaerobic training. And did he ever do it? Was volumes from a variety of researchers and nutrition. specialists, and since everyone agreed that creatine is added to a well-balanced daily diet I increased the effectiveness of high intensity weight training, I stopped being so skeptical. California. Now all that was left was for him to test himself. For the last six years I have worked seven days a week to develop my business. And four Some years ago, when businesses started to keep me working up to ten or more hours a day, I decided to stop training for a while. Well a time turned into four years and I slipped into the worst shape of my life, by far! So when he finally decided that he would start Training again on October 24, 1995, I did it with some trepidation. Because my muscles atrophied, that is, shrunk considerably, I added 25 pounds of body fat and had obviously become very unconditioned, I was afraid that even mild or moderate intensity workouts would see me nauseous, achy, and feeling our kind of things. While I was planning to "slow down" in the first few workouts, as it has always been difficult for me in the past, and I would end up getting sick in the middle of the first workout, Exhausted and sore for the day after. Not this time. And this was the first time fired for four years! At the end of my first workout, I realized that I had gone to complete failure on all my sets, exerting 100% effort intensity, and with an absolute minimum of rest between sets. Not only was I not tired or ill, I literally felt indefatigable, like I could go on indefinitely. And I ended up gaining 30 pounds of muscle the first month. Having returned from numerous lay people. In the past, I've never felt so good that I didn't need a low to moderate level. break-in period of intensity, nor had I ever gained so much muscle in such a short period of time. And I attribute some of this to my use of Creatine Fuel Plus! PRACTICE 127 I don't want to fool anyone. Without supplement it is maoir without proper training. And the proper rest, nobody is qoina to win like this. I trained properly and had adequate rest between workouts; But I also used the Creatine Fuel Plus Mv phone. Consultation customers were right! Finally, a supplement that serves to truly increase. An adequate training and rest program. By the way. For those who are not aware of all the scientific research. Get an exercise. science or physiology textbook and usually in the first chapter there is a complete section on energy metabolism of muscles. In the subsection on anaerobic activity metabolism, there is considerable space devoted to the Importance of creatine in fueling high intensity exercise. Creatine loaded muscles will perform and respond better to such training than those that are not. Simple enough. The concept "need" plays a crucial epistemological (intellectual) role here; one, in fact, that reverberates throughout the entire realm of biology. If you've ever studied physiology, For those who are not aware of all the scientific research. Get an exercise. science or physiology textbook and usually in the first chapter there is a complete section on energy metabolism of muscles. In the subsection on anaerobic activity metabolism, there is considerable space devoted to the Importance of creatine in fueling high intensity exercise. Creatine loaded muscles will perform and respond better to such training than those that are not. Simple enough. The concept "need" plays a crucial epistemological (intellectual) role here; one, in fact, that reverberates throughout the entire realm of biology. If you've ever studied physiology, science or physiology textbook and usually in the first chapter there is a complete section on energy metabolism of muscles. In the subsection on anaerobic activity metabolism, there is considerable space devoted to the Importance of creatine in fueling high intensity exercise. Creatine loaded muscles will perform and respond better to such training than those that are not. Simple enough. The concept "need" plays a crucial epistemological (intellectual) role here; one, in fact, that reverberates throughout the entire realm of biology. If you've ever studied physiology, science or physiology textbook and usually in the first chapter there is a complete section on energy metabolism of muscles. In the subsection on anaerobic activity metabolism, there is considerable space devoted to the Importance of creatine in fueling high intensity exercise. Creatine loaded muscles will perform and respond better to such training than those that are not. Simple enough. The concept "need" plays a crucial epistemological (intellectual) role here; one, in fact, that reverberates throughout the entire realm of biology. If you've ever studied physiology, there is considerable space devoted to the Importance of creatine in fueling high intensity exercise. Creatine loaded muscles will perform and respond better to such training than those

psychology or sociology, you've no doubt encountered the concept "need." One of the most important aspects of human biology / physiology is nutrition. Within the context of nutrition, the concept "need" (or satisfaction of need) implies a limit that cannot be transcended. Consuming nutrients beyond satisfaction of need is neither necessary nor desirable. Taking in either the macronutrients carbohydrates, protein, and fats - or the micronutrients - vitamins, minerals, trace elements - beyond what is required to satisfy the physical need is unnecessary as neither can be utilized, yet the excess must be excreted. This places an unhealthy burden on the excretory system, especially the kidneys. And with the macronutrients, all of which contain calories, consumption

Page 58

beyond need is highly undesirable as it leads to the deposition of bodyfat. Indeed, the concept "need" plays an important role in bodybuilding science. A rational bodybuilder does not want to train beyond need, or necessity, because this constitutes overtraining. And he doesn't want to consume food beyond need since that causes fat deposition.

24. A New Perspective: In my last book, I stated that one set per exercise and never more than three sets per muscle is all that is required. In certain cases, however, even one set can be too much! When establishing a personalized, baseline workout program, an enormous amount of context must be considered; for instance, the individual's age, his existing physical condition, past athletic and training history, recent training history, nutritive equilibrium, and certain genetic traits must all be accounted for and then checked against each other. In all cases, however, I discovered that the training program listed in my last book was more than anyone requires - me, you, your training partner and Dorian Yates, whether he understands it or not. It represented overtraining in terms of both volume and frequency of training. While I was working with the idea that one should perform only the precise amount of exercise required, I didn't have enough practical experience with my clients to conclude just how little exercise is actually required to stimulate an optimal increase in strength and muscular size. It is less than I realized at the time. The workout routine listed in that book advised the trainee to perform an average of six sets per workout every 48 hours on Monday, Wednesday, Friday, with weekends off. In addition to the observations I made with my personal clients using this particular routine, I received considerable input from many of the book's readers around the world who tried it. It didn't take long to conclude that despite the relative brevity and infrequency of the routine, it resulted in overtraining for many almost from the outset. I soon started to experiment with a continuous, methodical reduction of the volume and frequency of my clients' training until I reached its present level. Now my clients train only once every four to seven days with each workout being comprised of three to five sets. And in those PRAXIS 129 cases where the individual exhibits lower than average recovery ability, even less training is

performed. If you had just arrived from the planet Mars onto the earth and decided you wanted to build your muscles, and I told you that all that is required is one workout lasting 15 minutes every four to seven days, such would not strike you as too much or too little. As a fresh arrival from Mars, your thinking would be unhampered by all of the unwarranted assumptions, false generalizations and undefined contradictions about weight training that are floating like so much cognitive detritus, polluting the intellectual atmosphere of the earth's bodybuilding subculture. The major point to keep in mind is that bodybuilding exercise is anaerobic, which is antipodal to aerobic. They bear little or no resemblance. Their defining principles are actually anaerobic opposites: high-intensity, short duration,

Page 59

versus aerobic: low-intensity, long-duration. Suggested Routine # 2 The start-up routine we have discussed thus far will yield meaningful increases for the majority immediately. But for some people, those with poor innate recovery ability, this start-up routine may produce almost no worthwhile results. So, after two, and no more than three, complete cycles of the four-workout protocol, little or no strength increase is witnessed, cease the routine entirely. If a given routine is ever going to be productive, it should begin to yield meaningful results almost immediately. If you are not seeing results with this start-up routine after 2-3 complete cycles, take a two-week layoff, and resume training with the program listed below. Of course, those with average to superior recovery, abjriy will undoubtedly witness strength increases right from the> - '„ *? vr. HEAVY DUTY || beginning while using the start-up routine. And if they follow the advice, their progress should be uninterrupted for months I can't say precisely how long, because the genetics of recovery ability varies across a broad continuum. But however good the progress, if the individual has regulated the frequency downward to the point where he is working out only once every 6-7 days, and no strength increases are witnessed for two or three cycles, he should cease that routine entirely. A complete cessation of progress means that the increases continued over a period of time so that the associated stress / demands - given the volume and frequency protocol - reached a critical point where they constituted overtraining. A sticking point may be prevented by taking a twoweek layoff when a slowdown in progress is experienced. And after the layoff, summarize training on a routine that excludes some of the specialized, isolation movements, and focuses on compound movements that activate more muscle mass. The following is just such a program. Workout A: 1. Squats (alternated periodically with Leg Presses). 2. Close-Grip, Palms-Up Pulldowns. 3. Dips. Workout B: 1. Regular Deadlifts (alternated periodically with Shrugs). 2. Press Behind Neck. 3. Standing Calf Raises. Important Points 1. Dynamics of Physical Change: During periods of progress (ie, increasing strength and muscle mass), one's PRAXIS 131 physiology is not static, but in a continual process of change Workout A: 1. Squats (alternated periodically with Leg Presses). 2. Close-Grip, Palms-Up Pulldowns. 3. Dips. Workout B: 1. Regular Deadlifts (alternated periodically with Shrugs). 2. Press Behind Neck. 3. Standing Calf Raises. Important Points 1. Dynamics of Physical Change: During periods of progress (ie, increasing strength and muscle mass), one's PRAXIS 131 physiology is not static, but in a continual process of change Workout A: 1. Squats (alternated periodically with Leg Presses). 2. Close-Grip, Palms-Up Pulldowns. 3. Dips. Workout B: 1. Regular Deadlifts (alternated periodically with Shrugs). 2. Press Behind Neck. 3. Standing Calf Raises. Important Points 1. Dynamics of Physical Change: During periods of progress (ie, increasing strength and muscle mass), one's PRAXIS 131 physiology is not static, but in a continual process of change

And as the individual's body progresses, or changes, his training requirements change. Once the fundamentals of intensity, volume and frequency are understood, this issue of changing training requirements follows as the most crucially important issue in exercise science. If you desire unbreached progress, you must keep in mind all the while that as

Page 60

you continue to grow stronger and lift progressively heavier weights, the stresses grow greater - and they must be compensated for. If you could perform five reps to failure on the Pulldowns in one workout and, in the very next workout on that same exercise, you performed 10 reps to failure, something doubled. No strength, however. Performing twice as many reps with the same weight from one workout to the next does not represent a 100 percent increase in strength. As Arthur Jones pointed out recently in Ironman magazine, no one even knows for sure what strength is, how to define it, or properly measure it. No one knows precisely how to define the increase described above involving a doubling of the number of reps performed with the same weight from one workout to the next. There is a strength component as well as a work capacity component. When performing twice as many reps with the same weight it can be said that the individual doubled, or increased by 100 percent, his work output; having done so, he also increased the stress. He did not necessarily double the stress, however, because as his work capacity and strength increase, so does his anaerobic fitness and endurance, which enables the individual to tolerate more demanding workouts better, ie, less stressfully. In a scientific, physiologic sense, less stressfully means with less actual "wear and tear" on the body. This is not to say that the stresses don't increase at all. They most certainly do, as evidenced by my clients' progress slowing down when we don't sufficiently compensate for the increasing stresses by adequately reducing volume and frequency in a timely Fashion. .,: - Yes? HEAVY DUTY || Slowdowns or halts in progress are never the result of a particular volume and frequency protocol eventually amounting to under-training. Proof of this is the fact that concomitant with the slowdown or halt in progress are the onset of other symptoms of overtraining. Most remarkable of these is the fact that the individual, prior to the slowdown, felt fully recovered, teeming with energy, and possessed an abundance of motivation going into the gym for his workouts. Now, given the same volume and frequency protocol, he doesn't feel adequately recovered between workouts, experiences a lingering fatigue and a reduction in motivation. The key to uninterrupted progress, therefore, is to remain aware of the above - and compensate for the ongoing, increasing stresses.

2. Choice of Exercises: The program listed above is a suggested workout routine. The exercises may be changed periodically. For instance, Leg Presses may be substituted for Squats; Incline Presses may be used in the place of Dips; and Alternate Dumbbell Presses will serve well in place of the Press

Behind Neck. The important thing to bear in mind is that this is a consolidation program wherein isolation exercises that work single muscles, or parts of muscles, are eliminated. The focus here is on compound exercises that activate as much muscle mass as possible. This routine is designed to eliminate as much overlapping as possible while still stimulating maximum growth in all of the major skeletal muscles. Also, this routine stimulates maximum growth with the absolute minimum amount of exercise possible -with the least inroad into recovery ability possible, making more of the body's limited reserve of resources available for growth. Curls for the biceps are not included because, as mentioned earlier, the Close-Grip, Palms-Up Pulldowns will more than suffice to stimulate growth in the

Page 61

lats and biceps. And the Dips will be perfectly adequate to stimulate growth in the pecs THE MIND: CHECK YOUR PREMISES 133 as well as the deltoids and triceps. The Deadlift is the greatest overall growth exercise as it works every muscle on the backside of the body, from the Achilles tendon to the occiput of the head. Deadlifts also work the deltoids, the forearms, and just about every muscle in the body. This is a consolidation program which will put the beginner with poor recovery ability - the guy who failed to make any meaningful progress on the previous routine # 1, onto a satisfying path of regular progress. And for the veteran bodybuilder with advanced development who has regulated the volume and frequency of his training down to three or four sets every six or seven days, this routine is his last stop on the road to the full actualization of his muscular potential. 3. Advanced Techniques: With a consolidation routine such as this, especially for the more advanced bodybuilder, I advocate the more regular use of advanced techniques such as forced reps, cheat reps, negatives, hyper training, and rest-pause. The individual will have to determine their use. For weight selection, number of reps, rest between sets, etc., refer to the first list of important points. 4. Frequency: Workout A and Workout B should be conducted with five or six days of rest separating them. And as you grow stronger over time, begin inserting an extra rest day or two at random. Continue to insert the added rest day (s) with greater regularity until you are training but once every six to seven days or less, if and when you deem such to be necessary. SERVING THE NEEDS OF THE GROWTH MECHANISM T 135 SERVING THE NEEDS OF THE GROWTH MECHANISM 137 ■ % • "Man's possession of a rational mind makes it possible (and necessary) for him to act long-range under the guidance of his mind. Before he can act, man must know (in abstract, conceptual terms) what goals to pursue and how to pursue them - and then he must proceed to act on this knowledge. It is through the volitional adherence in practice to conscious knowledge that man experiences his freedom of action. " Tore Boeckmann, Conscious vs. Subconscious Motivation in Literature. Despite the considerable s possession of a rational mind makes it possible (and necessary) for him to act long-range under the guidance of his mind. Before he can act, man must know (in abstract, conceptual terms) what goals to pursue and how to pursue them - and then he must proceed to act on this knowledge. It is through the volitional adherence in practice to conscious knowledge that man experiences his freedom of action. "Tore Boeckmann, Conscious vs. Subconscious Motivation in Literature. Despite the considerable s possession of a rational mind makes it possible (and necessary) for him to act long-range under the guidance of his mind. Before he can act, man must know (in abstract, conceptual terms) what goals to pursue and how to pursue them - and then he must proceed to act on this knowledge. It is through the volitional adherence in practice to conscious knowledge that man experiences his freedom of action. "Tore Boeckmann, Conscious vs. Subconscious Motivation in Literature. Despite the considerable Subconscious Motivation in Literature. Despite the considerable

number of articles and books written on the subject over the last several decades, most bodybuilders today still don't know that a bodybuilding program should be geared toward the development of strength. Developing stronger muscles is a prerequisite to developing larger muscles. There is definitely a relationship between strength and muscular size. More obvious is the fact that heavyweight lifters are stronger than lightweight lifters, and that everyone reading this who ever developed larger muscles observed an attendant strength increase. No one who ever lifted weights grew larger without increasing his strength. It just doesn't happen. It was discovered by exercise scientists a long time ago that the strength of a muscle is proportional to the size of its crosssectional area.

Page 62

possess less muscle mass and bodyweight, yet can lift more weight than larger, more muscularly developed individuals. The mistake here is in attempting to draw a meaningful comparison between two different individuals. The fact is that the man with smaller muscles will grow larger only as he grows stronger, and likewise, the bigger man will grow larger only as he grows stronger. The "apparently" greater strength of the less heavily muscled individual can be accounted for by the presence of certain mitigating influences such as more favorable tendon attachments which give him a leverage advantage; superior neuromuscular efficiency and, thereby, greater contractile power per the same cubic volume of muscle; and, last but not least, is the fact that as a muscle becomes larger it grows increasingly distant from the bone, causing its "angle of Halar 138 HEAVY DUTY I to be less efficient. So while the muscles of the more heavily muscled individual are capable of contracting with greater force, in some cases they may not "demonstrate" as much strength - and usually for the reasons described above. Don't make the mistake of comparing yourself to others. The only person you may accurately compare yourself to is -YOU! You will grow larger only as you grow stronger. And as long as you're increasing in strength as a result of each workout, your training program is headed in the right direction, which brings us to the subject of nutrition ... You will grow stronger each workout as a result of following the workout suggested in the previous chapter. When a person grows stronger week to week, it's proof there's a positive "change" taking place inside his muscles. Since muscles, by definition, lift weights, a muscle growing stronger can't be the same muscle week to week; if it were, that muscle would be limited to lifting the same weight. The point to focus on is that as a muscle grows progressively stronger over a period of time, it is changing during that period. I am not specifying at this moment what kind of change. For now, just remember: it is in a process of positive change. If, during this period of change, the bodybuilder continues to consume only a maintenance level of calories, by definition, he will maintain his The point to focus on is that as a muscle grows progressively stronger over a period of time, it is changing during that period. I am not specifying at this moment what kind of change. For now, just remember: it is in a process of positive change. If, during this period of change, the bodybuilder continues to consume only a maintenance level of calories, by definition, he will maintain his The point to focus on is that as a muscle grows progressively stronger over a period of time, it is changing during that period. I am not specifying at this moment what kind of change. For now, just remember: it is in a process of positive change. If, during this period of change, the bodybuilder continues to consume only a maintenance level of calories, by definition, he will maintain his

existing physical mass; he won't gain mass, he won't lose mass, he will maintain. It's the laws of physics, or more precisely, of thermodynamics. You can't build new muscle mass out of thin air; certain nutritional and caloric values are required. By consuming only a maintenance level of calories, the bodybuilder will be frustrating - to some degree - the needs of the growth mechanism. He did train to failure; therefore, he did trigger the growth machinery into motion. Also, he is growing stronger; therefore, the muscle is changing. The growth mechanism is reaching out to grab the nutritional / caloric cement it SERVING THE NEEDS OF THE GROWTH MECHANISM 139 requires to build the muscle mass that the workout stimulated, but he only provided his body with enough nutrition to maintain the existing mass; Thus, the change I alluded to above will remain largely one of gua // faf / Ve / strength, and it won't manifest much, if at all, as a quantitative change, ie, muscle mass and bodyweight increase. There are a few who claim that a positive calorie balance is not necessary to build new lean mass while on a bodybuilding program. They say that the body can

Page 63

literally "steal" calories from fat and shunt them to the muscles for growth. In fact, this is precisely what Arthur Jones alleged was the case when Casey Viator gained 62 pounds of lean body mass during the one-month Colorado Experiment, which I described in my last book. He postulated that the number of calories Casey consumed that month weren't sufficient to account for all of the weight gained. Casey was not on a weight-loss or a maintenance diet. According to observers of the experiment, Jones literally force-fed Casey everything he could shove down his throat - including the kitchen sink. It was calculated that Casey was fed only enough food calories to account for 45 pounds of lean mass increase; therefore, that 17 pounds of Casey's fat was sacrificed somehow to build the muscle. While there may be some truth to this claim, I am skeptical. I suspect that either Jones' calculations were skewed, even if only a bit, and / or he really believed that Casey wasn't on steroids at the time, which he was. Steroids are extremely potent chemical agents that dramatically alter the body's biochemistry in many ways, two of them being that protein synthesis and glycogen / water storage inside the muscle are greatly enhanced. So while stolen calories may account for some of the lean mass buildup, I believe that the steroids helped too. (I conducted an experiment years ago, in which I went on a calorie-deficit, or weight-loss, diet while training without steroids, and the first week I lost nine pounds. Then I went on the same diet with steroids, and gained two pounds k *? ■■■■ HEAVY DUTY II the first week!) Then again,

whose body is very effective, and everything in between. Prior to my emphasizing the caloric dimension of nutrition to my clients, most would grow stronger, but didn't gain the mass and bodyweight they desired. Since reducing the volume and frequency of their training, and emphasizing the need for a positive calorie balance, my clients' bodyweight gains are finally keeping pace with their strength gains - and in the majority of cases, little or none of the weight gain is fat. As mentioned earlier, whereas one, two, three or four years ago, I would only occasionally have a client gain 10-20 pounds in a month, or 30-40 pounds in three to four months, now it is no longer the occasional or exceptional case - it is the rule.

The Food Diary The goal is to serve the nutritional / calorie needs of the growth mechanism to gain muscle mass and increase body-weight while adding little or no bodyfat. To do so in a methodical and predictable fashion, start by keeping a five-day food diary. Write down everything you eat for five days; at the end of each of those days, after consuming the last bit of food for the day, sit down with a calorie counting book and tally the day's total. At the conclusion of the fifth day, add up the five daily totals for a grand total, then divide by five, and you'll have your daily average calorie intake. If you didn't gain or lose weight during that five-day period, your daily average is also serving the needs of the growth mechanism.

41 HEAVY DUTY II To do so in a methodical and predictable fashion, start by keeping a five-day food diary. Write down everything you eat for five days; at the end of each of those days, after consuming the last bit of food for the day, sit down with a calorie counting book and tally the day's total. At the conclusion of the fifth day, add up the five daily totals for a grand total, then divide by five, and you'll have your daily average calorie intake. If you didn't gain or lose weight during that five-day period, your daily average is also serving the needs of the growth mechanism.

To do so in a methodical and predictable fashion, start by keeping a five-day food diary. Write down everything you eat for five days; at the end of each of those days, after consuming the last bit of food for the day, sit down with a calorie counting book and tally the day's total. At the conclusion of the fifth day, add up the five daily totals for a grand total, then divide by five, and you'll have your daily average calorie intake. If you didn't gain or lose weight during that five-day period, your daily average is also serving the needs of the growth mechanism.

Page 64

your daily maintenance level of calories. Let's assume, hypothetically, that your daily maintenance level of calories is 2200. Upon embarking on the suggested routine, make a conscientious daily effort to keep a positive calorie balance of approximately 300 calories - but not more than 500 - above the maintenance level. Why? So that you're serving the needs of the growth mechanism. The level of your strength increase will serve as a relative index of how much growth was stimulated. If you're only increasing a rep or so here and there, obviously there is less growth stimulation than if you're gaining in leaps and bounds. There's a little more than 600 calories in a pound of muscle. If you are stimulating three pounds of muscle growth a week, you will require 600 X 3, or 1800 calories per week above maintenance. That translates to 257 calories per day above maintenance, but you're taking in 300 calories above maintenance. Since 300 minus 257 would equal 43, those 43 excess calories above growth production need would turn to fat; However, since there are 3500 calories in a pound of fat, a 43-calorie-per-day excess would amount to only a pound of fat gained every 81 days. (If you stimulated one pound of muscle growth per week, instead of three pounds per week, you'd require 85 calories a day above maintenance; therefore, the 215-calorie excess would amount to approximately two pounds of fat gained per month.) If after two months on a positive calorie balance of 300 per day you see fat accumulating, use your best judgment and reduce calorie intake somewhat. (It has been suggested that re-taking in 300 calories above maintenance. Since 300 minus 257 would equal 43, those 43 excess calories above growth production need would turn to fat; However, since there are 3500 calories in a pound of fat, a 43-calorie-per-day excess would amount to only a pound of fat gained every 81 days. (If you stimulated one pound of muscle growth per week, instead of three pounds per week, you'd require 85 calories a day above maintenance; therefore, the 215-calorie excess would amount to approximately two pounds of fat gained per month.) If after two months on a positive calorie balance of 300 per day you see fat accumulating, use your best judgment and reduce calorie intake somewhat. (It has been suggested that re-taking in 300 calories above maintenance. Since 300 minus 257 would equal 43, those 43 excess calories above growth production need would turn to fat; However, since there are 3500 calories in a pound of fat, a 43-calorie-per-day excess would amount to only a pound of fat gained every 81 days. (If you stimulated one pound of muscle growth per week, instead of three pounds per week, you'd require 85 calories a day above maintenance; therefore, the 215-calorie excess would amount to approximately two pounds of fat gained per month.)

there is a "metabolic cost" in creating new muscle, so not all the excess calories would necessarily turn to fat.) For those interested in losing fat, reduce your caloric intake by 500-1000 a day below your maintenance level of calories, and you'll lose one to two pounds of fat a week. And as long as you're training on a proper high-intensity program, you won't lose muscle and may even gain some, depending SERVING THE NEEDS OF THE GROWTH MECHANISM 143 upon a constellation of genetic factors, none of which you can visually detect. (One of my phone consultation clients reported recently that, while on a calorie-deficit diet, he lost 11 pounds of fat / bodyweight over a three-month period, increased his strength enormously, and gained half an inch on his arms. of bodyweight would have been predominantly fat, with certainly none of it being muscle, as he did grow stronger and increased the size of his arms. This gain of muscle mass while losing fat on a calorie-deficit diet does not prove that his body stole calories from fat necessarily and shunted them to the muscles. It demonstrates that when you're in a modest negative calorie balance, the fat can be starved sufficiently to be used for fuel, and enough nutrition provided to maintain lean mass and to allow for at least some growth production. I told my client that as well as he did in terms of strength and lean mass increases, he most likely would have done better on a positive calorie balance.) When you reach the desired weight, go into a slight positive calorie balance of 300 or so, and see what happens As a bodybuilder continues to gain muscle mass and bodyweight, his maintenance level of calories will go up, and weight gains will slow down and eventually come to a halt. When you see that your weight gains have slowed down, increase the calories by 150 to 300 a day, and you'll resume gaining. Likewise, as a person continues to lose weight, his maintenance level goes down, and the weight losses diminish and eventually come to a halt. When that

Page 65

starts to happen, decrease calories by another 500 or so per day, and the weight loss will continue. When a bodybuilder is gaining muscle mass as well as getting stronger, he should see a reciprocally reinforcing relationship between the two. In other words, his muscle mass increases will facilitate even greater strength increases ^which in turn facilitate greater growth stimulation. I at some pom you believe you may need more than a positive calorie bal HEAVY DUTY II SERVING THE NEEDS OF THE GROWTH MECHANISM yo; « ■■ stance of 300 per day, go to 400 or 500 above maintenance. Be careful, however, as not too many bodybuilders will ever require that many extra calories above maintenance levels. If you grossly miscalculate on the side of a positive calorie balance, you'll know fairly quickly, of course, as fat deposition will be appreciable.

well-balanced diet below that level, and the chance of sacrificing lean mass increases (By "lean" mass, I mean not just muscle, but all organic tissue mass.) In cases of morbid obesity, it may be necessary to reduce the calories even further, but then only under a physician's supervision.

The Actual Relationship of Nutrition to Bodybuilding

In early 1995 I received a phone call from a young man in New Jersey who was obsessed with the idea that his lack of bodybuilding progress was due to a nutritional problem. As soon as he got me on the phone, without even announcing his name, he launched into what seemed like an endless series of questions about different supplements such as phospho-gain, vanadyl sulfate, Hot Stuff and MetRx. In the midst of this catechism, it occurred to me that since he was so confused about the subject of nutrition, it wasn't likely that he understood anything about the science of high-intensity, anaerobic exercise either. Initially, he disavowed this, exclaiming his lack of bodybuilding progress was due solely to faulty nutrition. (In fact, this is rarely the case, especially in this country, where most people are not just well nourished, but overnourished - especially bodybuilders.) Upon further questioning, I found I was right. He was violating all of the laws of nature here. He knew nothing about the principle of intensity, or the necessity of training to failure-therefore, he wasn't stimulating much if anything in the way of meaningful growth. And even if he had been, he was so overtrained from his two-hour workouts five to six days a week that his body couldn't have produced any worthwhile results whatever his diet. I said to him, "Young fella, you remind me of the man who earnestly desires a suntan, but continues to make the mistake of going outside at midnight, then wastes thousands of dollars on different suntan lotions, thinking the next one will solve his problem. "The issue of the suntan lotion is not without some import," I continued "however, it only assumes relevance within the context of first having satisfied nature's fundamental requirement, which is the presence of a high-intensity sunlight stress. In other words, you can't obtain a suntan sitting in front of a 100-watt light but continues to make the mistake of going outside at midnight, then wastes thousands of dollars on different suntan lotions, thinking the next one will solve his problem. "The issue of the suntan lotion is not without some import," I continued "however, it only assumes relevance within the context of first having satisfied nature's fundamental requirement, which is the presence of a high-intensity sunlight stress. In other words, you can't obtain a suntan sitting in front of a 100-watt light but continues to make the mistake of going outside at midnight, then wastes thousands of dollars on different suntan lotions, thinking the next one will solve his problem. "The issue of the suntan lotion is not without some import," I continued "however, it only assumes relevance within the context of first having satisfied nature's fundamental requirement, which is the presence of a high-intensity sunlight stress. In other words, you can't obtain a suntan sitting in front of a 100-watt light which is the presence of a high-intensity sunlight stress. In other words, you can't obtain a suntan sitting in front of a 100-watt light which is the presence of a high-intensity sunlight stress. In other words, you can't obtain a suntan sitting in front of a 100-watt light

Page 66

bulb for an infinity of eternities, even if you're rubbing phosphogain suntan lotion over your entire body all the while. Nature sets the terms. "The relationship of nutrition to bodybuilding is similar. While nutrition is, of course, important in the daily life of everyone, in the context of bodybuilding, nutrition is a consideration secondary to a proper high-intensity training program. One must stimulate growth first, via the imposition of an anaerobic training stress, and then adequate nutrition must be provided during a sufficient rest period between workouts so that the growth mechanism may produce any growth stimulated by the training. 147 **HEAVY DUTY II EITHER-OR** "Rationality is man's basic virtue, the source of all his other virtues. Man's basic vice, the source of all his evils, is the act of unfocusing his mind,

not blindness, but the refusal to see, not ignorance, but the refusal to know. Irrationality is the rejection of man's means of survival and, therefore, a commitment to a course of blind destruction; that which is anti-mind is anti-life. "Ayn Rand, The Objectivist Ethics." It is not justice or equal treatment that you grant to men when you abstain equally from praising men's virtues and from condemning men's vices. When your impartial attitude declares, in effect, that neither the good nor the evil may expect anything from you - whom do you betray and whom do you encourage? "Ayn Rand, How Does One Lead a Rational Life in an Irrational Society? Many people today have become almost obsessive about the notion of "conspiracy theory." The idea is that there are a number of small groups, or cabals, within our country (and the world) intent on altering the course of events by surreptitiously imposing their view of the truth on the rest of us. For example, the theory that JFK was assassinated by a coterie of blind zealots within our military, secret service and Congress to save us from Kennedy's brand of socialism. / nother is the alleged plot involving the Rockefellers and the Trilateral Commission to form a One World Government via secretive, skilled manipulation of the global economy. Shabby theories (or hypotheses) such as these enter the nation's consciousness from time to time, but are very rarely supported by even a shred of solid evidence. Paranoia of the out-of-control Leviathan may be cited as one cause of such phenomenon; fodder for spirited public debate, another. One conspiracy that has most certainly existed throughout man's history, and is still operative today, is the "conspiracy without a head," as designated by Ayn Rand. I refer to the fundamental force, or power, which has directed the course of man's history from time immemorial - without his conscious, explicit awareness. That is the power of ideas. While inescapably essential to the lives of individual men and nations in any era, the nature and extent of this power has proven profoundly elusive to most, especially today. The essential distinguishing characteristic of man as a biological species is his rational faculty. The rational faculty, unlike the instincts of animals, may be exercised only by an act of volition, ie, a conscious choice to focus one's mind to a purposefully directed awareness of reality.

Page 67

into his mind that determines his success or failure, his happiness or suffering. The "conspiracy without a head" is not masterminded by any one individual or group of individuals; after all, it is as old as man, and continues today without anyone's conscious guidance. Specifically, it refers to the fact that the species man, ie, the intelligent, rational animal, has been suffering a self-induced philosophic myopia, or blindness to the fact that he has allowed himself to drift will-lessly as passive victim of false , irrational premises (ideas) since his early

dawn. And today, when the unprecedented advancements of science have provided irrefutable evidence of the power of man's mind (his ability to gain knowledge and use ideas) over nature, such passive ignorance is least excusable. While the warning that "those who don't learn from history are doomed to repeat its mistakes" has been trumpeted over and over, apparently few men heed it - or beware. And man's most grievous mistake, the one fundamental error most directly responsible for all the others - the squalor, the agony, the carnage - has been his willingness to live with himself as with a mystery, to know the least about that which matters most, ie, the nature of his consciousness, its specific characteristics and requirements. Ideas, or concepts, are the tools of man's consciousness; like everything that exists, ideas have a nature, an identity. As the grand-scale context of the history of ideas amply demonstrates, when objectively validated and explicitly understood, true ideas will guide the life of a man or a culture toward the successful achievement of rational intellectual-moral values - success, freedom and happiness. As witness, those few brief shining moments in man's otherwise tortured history: Ancient Greece, whose cultural leitmotif was an enormous intellectual enthusiasm that resulted in the proliferation of new ideas in the fields of science, morality, art - and were responsible for the very concept "philosophy" and, thus, the birth of Western Civilization; The Renaissance which marked the return of the Grecian intellectual spirit after a protracted Dark Age, Aristotelian logic, and the "rebirth of reason"; The Enlightenment, which resulted in freedom (ie capitalism) for the first time in history via the theoretical principles of the Constitution of the United States - and the Industrial Revolution, responsible for unprecedented scientific-technological achievements and a standard of living theretofore undreamed of. During periods of philosophic default, when men reject their means of survival, and turn away from the truth and rational ideas, the result is the breakdown of civilization and human progress. As witness: the vertiginous descent into that maelstrom of irrationality known as the Dark Ages. It was that era during which men turned away from logic and the teachings of Aristotle - and the light of reason was extinguished; when insanity swept through entire towns and villages; when disease, pestilence, famine and war short-circuited the hopes, dreams and lives of most; when the rule of brute, mindless force seriously threatened the future of Western Civilization, and such a great thinker as Galileo was sequestered and almost beheaded by the Pope of the Inquisition to question, or refute, the basis of religious mystical philosophy, that is, the notion that the earth was the Center of God's murky and supernatural domain. To those benevolent souls who may innocently, ignorantly believe in the inevitability of "automatic human progress" and protest the claim that man intellectual-moral progress stops, let me remind you that the 20th century marks the lowest step of hell. that man has allowed himself to descend. mindless force seriously threatened the future of Western Civilization, and such a great thinker as Galileo was sequestered and nearly beheaded by the Pope of the Inquisition to question, or refute, the basis of religious mystical philosophy, that is, the notion that the earth was the center of God's murky and supernatural domain. To those benevolent souls who may innocently, ignorantly believe in the inevitability of "automatic human progress" and protest the claim that man intellectual-moral progress stops, let me remind you that the 20th century marks the lowest step of hell. that man has allowed himself to descend. mindless force seriously threatened the future of Western Civilization, and such a great thinker as Galileo was sequestered and nearly beheaded by the Pope of the Inquisition to question, or refute, the basis of religious mystical philosophy, that is, the notion that the earth was the center of God's murky and supernatural domain. To those benevolent souls who may innocently, ignorantly believe in the inevitability of "automatic human progress" and protest the claim that man intellectual-moral progress stops, let me remind you that the 20th century marks the lowest step of hell. that man has allowed himself to descend. the basis of religious mystical philosophy, that is, the notion that the earth was the center of God's murky and supernatural domain. To those benevolent souls who may innocently, ignorantly believe in the inevitability of "automatic human progress" and protest the claim that man intellectual-moral progress stops, let me remind you that the 20th century marks the lowest step of hell. that man has allowed himself to descend. the basis of religious mystical philosophy, that is, the notion that the earth was the Center of God's murky and supernatural domain. To those benevolent souls who may innocently, ignorantly believe in the inevitability of "automatic human progress" and protest the claim that man intellectual-moral progress stops, let me remind you that the 20th century marks the lowest step of hell. that man has allowed himself to descend.

As stated in Chapter One, ours is not simply a Dark Ages, but a Black Hole. While the murder of an innocent individual is excessive, too many people give little notice to the faith of hundreds of millions who have been needlessly sacrificed in the history of man. If that seems too distant and impersonal to have much impact, consider that suicide is the number one cause of death among adolescents today; that a quarter of all hospitalizations are in psychiatric wards; and that both politicians and people together view American culture as helpless - once "humanity's best and brightest hope" - continues to disintegrate. The context, causes and consequences of this modern or philosophical madness. Black hole, you can see everything about us, including the bodybuilding subculture. Lacking even a nominal understanding of the rudiments of rationality necessary for criticism. Analyzing ideas (distinguishing truth from falsehood), most bodybuilders are powerless against the incessant tide of misconceptions, fraudulent claims, and outright lies enacted in the bodybuilding / fitness media. The irrational relationship between the bodybuilder and unscrupulous entrepreneurs is mutually reinforcing. It would be extremely difficult to prove that one party is more guilty than the other. It is similar to the relationship between Hitler and the people of Weimar, Germany before WWII. Both Hitler and those he ruled were second-hand, that is, their primary contact with reality was not ideas, but awareness of others. They were intellectual co-dependents, if you will, where One wanted to control and the others to be controlled. Complete intellectual Independence, a first-hand conceptual understanding of reality, is a rare philosophical philosophy. achievement, made by giants of spiritual self-reliance - and almost all non-existent in the world today. *** *** *** Having just disdainfully grown vicious and varied irrationality. In the attacks he witnessed in the field of exercise science and bodybuilding, of the kind seen in every sphere of human life, and paralyzing the progress of humanity, Arthur Jones has often stridently intoned: "Either you are part of the problem or You are part of the solution The choice is yours The problem is oo Let the chips fall where they spoil the bets is your ass. There is no other possibility. "As a serious reflection, directed at those who might be uncertain about the consequences of making the wrong decision, Jones warned:" Most people get what they deserve; and in the end they will get it in the neck. "In my previous contacts with Mr. Jones, such comments excited something in me, which at that time, I could not identify It was also my strong moral" sense of life "as the nascent explicit understanding that he possessed of the truly serious nature of the ethical questions Jones was exposing on. Today I have a conceptual understanding and intellectual understanding of the ethical issues. Most people get what they deserve; and in the end they will get it in the neck. "In my previous contacts with Mr. Jones, such comments excited something in me, which at that time, I could not identify It was also my strong moral" sense of life "as the nascent explicit understanding that he possessed of the truly serious nature of the ethical questions Jones was exposing on. Today I have a conceptual understanding and intellectual understanding of the ethical issues. Most people get what they deserve; and in the end they will get it in the neck. "In my previous contacts with Mr. Jones, such comments excited something in me, which at that time, I could not identify It was also my strong moral" sense of life "as the nascent explicit understanding that he possessed of the truly serious nature of the ethical questions Jones was exposing on. Today I have a conceptual understanding and intellectual understanding of the ethical issues. moral as his nascent explicit understanding of the true serious nature of the ethical questions Jones was raising. Today I have a conceptual understanding. and intellectual understanding of the issues of moral as his nascent explicit understanding of the true serious nature of the ethical questions Jones was raising. Today I have a conceptual understanding. and intellectual understanding of the issues of

morality and justice, and I agree with the motives and premises that motivate Jones' fair expression of outrage. There is a certain definite point beyond which the voluntary evasion of knowledge and the associated violation of the ethical principles that preserve life, turns into depravity of evil. Each person has the responsibility to learn to judge critically to protect oneself, and in the context of having chosen to live Together, each one has a responsibility to respect objective and ethical principles. What should guide our correct and rational relationship with others. If you are wondering what relevance the themes of explicit philosophy have,

Page 69

morality and justice have in a book on bodybuilding, don't forget - bodybuilding doesn't exist in a vacuum, apart from the rest of life. And that the inescapable result of refusing to learn how to think rationally and to judge critically is the shriveling of one's self - and, in a social context, serves only to betray the good and to encourage the evil. Outrage After Outrage! Popular science writer Martin Gardner wrote in the intro- f ^ ^ K ~ 154 HEAVY DUTY II EITHER-OR 155 • ■ '- ■ ft YO "duction to his book, Science: Good, Bad, and Bogus:" In a free society every crank has the right to be heard, and no one can say that in our society they are not heard. Thanks to the freedom of our press and of the electronic media, the voices of cranks are often louder and clearer than the voices of genuine scientists. Crank books - on how to lose weight without cutting down on calories, on how to talk to plants, on how to cure your ailments by rubbing your feet, on how to apply horoscopes to your pets, on how to use ESP to make business decisions , on how to sharpen blades by putting them under little models of the Great Pyramid of Egypt - far outsell most books by reputable scientists. "I do not believe that books on worthless science, promoted into bestsellers by cynical publishers, do much to damage society except in areas like medicine, health and anthropology. There are people who have died needlessly as a result of reading persuasive books recommending dangerous diets and fake medical cures. " I would add to that list any of the medical / health subspecialties, such as general nutrition and bodybuilding / fitness training. When someone establishes himself as an authority in any one of these areas involving human well-being, he has an enormous ethical responsibility to do everything within his power to keep apprised of the advancement of knowledge in his field as all good medical doctors do. Only recently has the field of bodybuilding / fitness been begrudgingly accorded a miniscule respect by the legitimate scientific-medical community. The actual value of bodybuilding goes largely unnoticed because of the preponderant influence of low-grade mentalities controlling it. Unlike the hallowed researchers and practitioners of Western theoretical medical science, who rightfully pride themselves on exacting intellectual standards and noble ethical principles, too many of the individuals involved in regulating the sport and industry of bodybuilding - and to

a significant degree, exercise science - have no explicit intellectual standards and, worse, their degree of control has emboldened them to a point that they actually take pride among themselves for flouting ethical principles.

Unfortunately, too many of the self-styled "experts" in our field not only fail to make even a nominal effort to stay open to the state of the art, they actively evade such knowledge and even work diligently to suppress valid ideas that would help people achieve greater progress, as well as protect their health.

Page 70

Sheer innocent ignorance is one thing, but the conscious evasion and willful suppression of life-enhancing knowledge is another. The motive of such people is the irrational desire to project and protect a false image of untested superiority and omniscient infallibility. Such only serves, of course, to make them look ridiculously pathetic, and to pose a threat to the young and innocent who are apt to be duped by the blandishments of these not so big "big shots." I could write an entire book on the innumerable outrages which characterize the intellectual-moral status of the field of bodybuilding in general. I will limit myself here, however, to two examples of most immediate, personal concern. The first is in the area of higher education and exercise science. I do not name the villain in this case, in order to highlight the greater evil of the individual (whose name deserves mention) in the second case. The latter involves not only the sport / industry of bodybuilding but, also, me directly and someone who has earned the reverence of myself and millions of others of like mind. *** *** *** Earlier this year, in March of 1995, I was visited by two young and very bright exercise physiology students for the purpose of having me personally supervise them through a Heavy Duty workout, and to answer their many questions about scientific training theory. During the course of their workout, these two young men related to me the frustration 156 HEAVY DUTY II EITHER-OR 157 yo they experience with some of their obtuse professors. There was the occasion, for instance, when one of them asked the professor (a famous academician, widely published) which training method is most productive, and the man of so-called higher learning responded in a blase fashion, as if oh-hh !! so world weary that the question (er) simply wasn't worth his time or effort: "Ah, they all work. None is better than the other." When the other of my two clients asked the same teacher what he thought of the Heavy Duty, or high-intensity, training approach, the man ejaculated, as though uttering the latest word in human thought: "Now that one is a bunch of crap . It couldn't possibly work. " The contradiction is most enlightening. First, the professor states that all training methods work. Which, of course, is ludicrous. That's tantamount to suggesting that the intellectual method of the Eastern mystics would just as likely succeed at establishing a rational, ideal culture as would that of Western Objectivist philosophers and scientists. Despite being a well-paid university professor, this man has obviously not made the slightest effort to stay abreast of the latest, state-of-the-

art knowledge in exercise science. Furthermore, while ignorance of the theoretical principles of high-intensity training might be morally excused, to deny the abundant evidence in reality that such training has proven productive is reprehensible. After all, how many in the field have never heard of Casey Viator, Mike Mentzer, Ray Mentzer, Aaron Baker, David Dearth, Lee Labrada, Dorian Yates, Arthur Jones, Dr. Ellington Darden, Dr. Wayne Wescott et al? Contextdropping on such a scale is not the result of an innocent intellectual error, or oversight. This man who, by virtue of his professional stature, purports to be an advocate of reason, logic and science, has abdicated his ethical responsibility by

Page 71

turning his back on reality and granting intellectual equality to all of the existing training theories - except mine! This professor certainly wouldn't stand accused of being ME; 158 HEAVY DUTY II motivated by a sincere desire to establish the objective truth. His unnamed, unadmitted motive is jealousy, envy and hatred for one who is passionately concerned with the truth and the realm of the intellect: namely myself - and all those intellectually certain about the validity of high-intensity training theory. Having discovered the very demanding nature of the realm of ideas, this individual apparently found it too demanding. In rejecting the responsibility and effort of rational thought and logical deliberation, he seeks the undemanding safety of intellectual passivity, a sanctuary from the dictates of reason and reality, and yet still wants to be respected (by the innocent young and unsuspecting) as an "expert." *** *** The following are excerpts from an article of mine printed in the September 1995 issue of Flex magazine. The article is intended as a rebuttal against the most vicious diatribe against intelligence, philosophy, science, truth, honesty and virtue ever published in a bodybuilding magazine. It was an article entitled, "A Second Look At High Intensity Training," written by Jeff Everson, and printed in the July 1995 issue of Ironman magazine. My article is entitled: A CASE OF MYSTIC DELIRIUM by Mike Mentzer As an Objectivist, I am an advocate of capitalism. As an advocate of capitalism, I uphold the free market of ideas along with the free market in material values. Thus, I have no moral objection when someone attempts to refute the theory of HEAVY DUTY, or high-intensity, training. In the free marketplace of ideas, it is proper for civilized men to debate the ideas on which they disagree. In this way, the men exposed to those ideas are provided the opportunity EITHER-OR 159 to judge the merits of each, and decide for themselves which is true. Since knowledge is man's means of survival, progress and happiness, those who embrace the responsibility and effort of reason - and judge correctly which ideas are valid -are rewarded, while those who abdicate that responsibility suffer the consequences. Who benefits, however, when one of the sides to an argument departs from the rational strictures of an honorable debate and, instead, becomes consumed by the In the free marketplace of ideas, it is proper for civilized men to debate the ideas on which they disagree. In this way, the men exposed to those ideas are provided the opportunity EITHER-OR 159 to judge the merits of each, and decide for themselves which is true. Since knowledge is man's means of survival, progress and happiness, those who embrace the responsibility and effort of reason - and judge correctly which ideas are valid -are rewarded, while those who abdicate that responsibility suffer the consequences. Who benefits, however, when one of the sides to an argument departs from the rational strictures of an honorable debate and, instead, becomes consumed by the the men exposed to those ideas are provided the opportunity EITHER-OR 159 to judge the merits of each, and decide for themselves which is true. Since knowledge is man's means of survival, progress and happiness, those who embrace

desire to derogate the character of his opponent? None. Including the guilty party, and especially the young and philosophically immature who may be sincere in their quest for the truth, but may be swayed by the crude sophistry of the perpetrator. Recently I've observed an ever-increasing number of articles by various authors in all of the bodybuilding magazines devoted to the attempt not to refute the theory of high-intensity training in an intellectually honest and dignified fashion (a point-by-point refutation of the theoretical principles), but to pervert, distort and misrepresent its actual content and meaning. (In one or so isolated cases, the

Page 72

author did appear to be motivated primarily by a desire to arrive at some truth, even if in a manner so faltering, I questioned the motive.) In every other case, however, the authors resorted, in varying degree, to the morally repugnant argument known as *ad hominem*, which is the attempt to refute an idea by impeaching the character of its proponent. The basic pattern of the argument *ad hominem* is: Mr. X is salacious, or a liar, or insane, etc .; therefore, his argument is false. None of these was ever so severe in the degree of contempt expressed that I was obliged to lodge an objection - until now. It was the vile impertinence of Jeff Everson in his article, "A Second Look at High-Intensity Training," published in the July 1995 issue of *Ironman*, which I will now address. Not only does Everson have a personal problem about Mike Mentzer - "Lately, a few bodybuilders have been fancy-ing themselves logicians, or, as it were, legitimate philosophers"; and Ayn Rand - "Evidently he (Mike Mentzer) has also read Ayn Rand's *The Fountainhead* and *Atlas Shrugged*. I've read them both ... And what can you say about Ayn Rand? Well, in my book, she's no Plato. " Everson, like all mystics, also is moved by antipathy for man - "It's a pity but we humans wallow in illogic, redundancy and metaphor." But none of the gloating malice about anyone else redounds so much as a meaningful curiosity as does his own boastful self-abasement. In the beginning of his article, Jeff claims to "abhor an intellectual vacuum." Then he implicitly contradicts himself by asking the reader how he survived at the helm of *Muscle & Fitness*. (Since he abhors an intellectual vacuum, one would assume he knows the answer himself.) Everson concludes the paragraph with an explicit contradiction, "Perhaps ... I did it by pushing a vacuum through Joe Weider's office." The saying that "those who don't respect themselves don't respect others" is apparently true - at least in this individual's case. (Mr. Weider's *Muscle & Fitness* was never that bad, Jeff, even under your helmsmanship.) After paragraph two, wherein he indicts the human race for wallowing in illogic, Everson states in paragraph three that "according to logic" there is no such thing as a theory that is more valid than any other. (Speak for yourself, Jeff, rather than for all of mankind.) This is simply not true; either a theory is valid or it is not, and only one may be true. He is wrong again when he states that if "a

m quite happy about my achievement. And if you meant that I couldn't possibly be a "legitimate philosopher" because I don't have a Ph.D. on the subject, well, neither did Plato. Yes, you were right about one thing: Ayn Rand is no Plato. While we owe Plato a certain debt for having discovered the very concept of "philosophy", that is, the fact that man needs an intellectual method to guide his thinking, validate his conclusions,

Page 73

and to establish the criteria of what can be legitimately accepted as truth, we must also debit it for raising the most serious doubts of philosophy, none of which was necessary. Plato was a mystic. His fundamental intellectual error was to postulate. another "higher" reality of which this was but a gloomy and imperfect reflection. As a result, he was unable to achieve intellectual perfection in this world. And we want to thank Ayn Rand for pointing this out and explaining why and how man can achieve intellectual certainty - and therefore perfection. No, Jeff, Ayn Rand was not Plato, she was Ayn Rand, the most individualistic. Being human of all time. And I respect her for having worked so conscientiously ... with the "most scrupulously logical deliberation" - that achieved a total system of traditional thought that extended and united the five Branches of philosophy: metaphysics, epistemology, ethics, aesthetics and politics. Having done that, he achieved intellectual-moral perfection. For this I love and exalt her; Your example proves that it is possible. Yes, Jeff, as you also claim to have done, I read Atlas Shrugged and The Source of the Head. However, I have read each of these very, very carefully six times, as I learn over 163 from each subsequent reading. These two period novels, along with her. Many explicit treatises on philosophy have helped millions of people around the world. The world learns to think and judge for itself, so they stopped. searching opinion polls for the truth and thus achieving intellectual independence. Pendency, or individualism. For Those Sincerely Interested in Achieving Intellectual Success (Certainty) and Ethical Success (Happiness), by Ayn Rand. The books are available in most bookstores. As for his deceptive attempt to disprove the theory of

high intensity training, I won't. take the time or place here to respond to their arguments, as they have been addressed not only in my books, but also in my monthly columns and articles on Flex. If you are genuinely interested in the truth about these matters, I will send you a copy of my new heavy-duty revised book, which, like Atlas Shrugged and The Fountainhead, you apparently have not read, or have not read in focus. Thanks. *** *** *** In a humorous tale by Edgar Allen Poe, titled "How to Write a Blackwood Article," he referred to SDUK, or The Society for the Dissemination of Useless Knowledge. If you decide that the "one or the other" problem is described above, it does not deserve your attention, and like Jeff Everson, the desire to remain a permanent member of SDUK, Instead of a member of the human species, that is, a being who willingly embraces the effort and responsibility of a volitional conscience, be my guest. Gambling is not just your ass, like Arthur Jones. Said, but also your soul. Remember, man is an indivisible entity, an integrated one. Unity of mind and body