SHADOWTECH

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CREDITS

DEDICATION

To my father, who showed me the wonders of science, and to my mother, who would've killed me had I not decided to become a doctor. Thank you.

INTRODUCTION

Technology has always been a race to stay as many steps ahead of the next guy as possible. After all, nobody wants to look at the world from the bottom of the heap. Inevitably, then, science advances ever onward in a series of oneupmanship" contests—a vicious circle called progress.

Luckily, shadowrunners are just the kind of people most likely to benefit from the fallout of such behavior, profiting both from the act of acquiring sensitive data for others and from the wealth of new tech items available at the retail end of the chain.

Shadowtech is a sourcebook for use with the **Shadowrun** game system. Its purpose is twofold. First, it explains the science underlying the latest technological discoveries leading to the development of new bioware and cyberware as well as other useful equipment . It also provides descriptions and game information for many of those same high-tech items. Second, understanding how things work not only enriches the game ambiance, but also gives both players and gamemasters a better grasp on applications and limitations inherent in the new enhancements and gear their characters will now have at their disposal.

USING THIS BOOK

The sciences covered in this book are bionetics, cybertechnology, eugenics/genetics, and chemistry. Each is divided into two sections: technology and equipment. The technology chapter examines the science in the context of current theory, general rules, techniques, and also investigates the breadth and limitations of advances made in that field of study. These sections are for gamemasters and interested players. They explain some of the science behind the mechanics, and present a more concrete picture of the level of technology available in the **Shadowrun** universe. An equipment chapter directly follows each technology section, with descriptions of items developed from that particular science. The equipment chapters introduce the game concepts of Availability Codes, Legality Ratings, and Street Indexes for "purchasable" merchandise.

An item's Legality Rating expresses how legal it is to possess a particular item. The Availability Code indicates how difficult it is to obtain the item. The Street Index indicates how to determine the "street price" for the item. For full information on Legality, Availability, and Street ratings, see p. 101 in the **Technology and the Law** chapter of this book.

Nuyen costs listed with each equipment description are accurate only for legitimate and corporate buyers—usually those with licenses and permits. For rules governing permit availability costs, refer to p. 102 of **Technology and the Law**. If the purchase is being made on the street or on the shadow market, multiply the listed cost by the Street Index. (Note that some items are indeed cheaper on the streets.) As usual, certain transactions may permit bargaining. If the negotiations are successful, each extra success from the Opposed Negotiation Test reduces the purchase cost by 5 percent—but the price can never fall to less than 75 percent of the published price. A Street Index of "0" means that the item in question is *never* available on the street or on the shadow market, and may only be purchased from legitimate sources.

Shadowtech also includes a comprehensive Equipment Table, p. 109, that includes all the new items described in this book as well as all equipment described in previously published **Shadowrun** products. This table gives the Legality Ratings, Availability Codes, and Street Indexes for both the new and previously described equipment.

GAMING NOTES

From behind the closed doors of the major movers and shakers in the high-tech industries to the dark corners and alleyways that define the shadow world of the runners, the information gathered here is as good as it's gonna get—at this price. But before players characters go running off to fill in the missing pieces, the gamemaster should caution them to remember what happened to the proverbial cat that got too curious.

Gamemasters should also note that one of the most important restraints on the proliferation of the technology seen in **Shadowtech** is financial. Gamemasters who run nuyen-rich games may wish to increase the Availability Ratings of items that might unbalance their games. As always, the individual gamemaster is the final arbiter of what it and is not available in a particular **Shadowrun** game. Gamemasters may wish to slowly introduce the new technology to the streets as it filters down from the higher places. It is also recommended that beginning characters not be allowed to start the game with technology from this book. Let them earn it.

BIONETICS
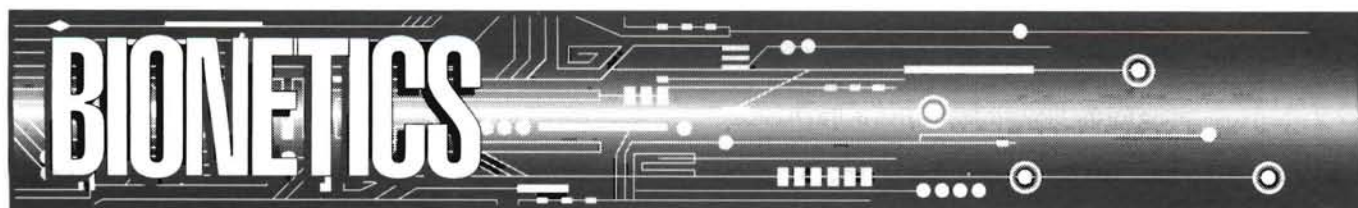
"The human body is a marvel of biological design and function—Mother Nature's crowning achievement."
—Cranston's Guide to Human and Metahuman Physiology, 4th edition, 2051

"I've got a few tricks Mother Nature missed."
—Dr. Kristine Martin, Director of Research, Universal Omnitech

"...backed into a corner and surrounded by five Rippers. Am I worried? Drek, no! I've got my Doc Martin™ implants and six rounds left in my gun!"
—From a trideo ad, 2052

The human body is a complex and intricate machine built from organic materials and compounds. Just as with any other machine, man continually seeks to improve it beyond the factory specifications. Bionetics, a subset of biotechnology, is the field of science dedicated to improving the human machine on an organic level and on a macrobiological scale. That is, bionetics research seeks to improve the body's many existing organs and subsystems by enhancing and augmenting them.

Although the application of bionetics can make the body perform far beyond its original parameters, these enhancements are quite different from those possible through cybernetics. Metal is stronger and silicon faster than flesh, but flesh is more malleable. Meat is by far the subtler, and infinitely more diverse, medium.

Bioware is undetectable, except by intensive medical examination. Casual searches, X-ray scans, and the like cannot discern the difference between an augmented organ and the original. (New replacement organs, glands, and so on can be detected by examining an X-ray result, however.) Apart from exploratory surgery or other drastic measures, the only way to determine that an individual has undergone biological modification is through metabolic analysis such as a urinalysis or blood test.

Bioware, being mostly organic in composition, is less invasive than cyberware. It costs most characters no Essence Points to have bioware implanted. It is also true, however, that the body can take only so much augmentation before the delicately balanced human/metahuman metabolism begins to suffer. The maximum amount of bioware that a given individual can safely accept is represented by the *Body Index*, which is equal to the total number of Body Cost Points represented by his bioware, up to a maximum equal to the character's natural and unaugmented Body Rating, modified only by race and Karma. (Each bioware item has a Body Cost listed with its description in the next chapter.) For example, a character acquires a piece of bioware with a Body Cost of 1. Once the bioware has been successfully implanted, the character has a Body Index of 1. His maximum Body Index is equal to his unaugmented Body Rating.

As physical integrity is even more crucial for the magically active (magicians and adepts), these characters must spend Essence and add to their Body Index when selecting bioware. (An adept may factor in magically acquired attribute bonuses when calculating his or her Body Index.) The Essence cost for bioware is equal to the Body Cost. In all cases, the Body Index is merely an indicator; no "real" Body is ever actually lost in acquiring bioware.

>>>>>[Don't believe all the hype you hear or read about bioware development. Sure we've got a lot of good products, but we've got a lot of good marketing people, too. Bionetics research is a very costly endeavor and a lot of stuff is brought to market early in order to recoup some of that substantial investment immediately. Far too early, in some cases.]<<<<<
—KAM <13:27:02/11-30-52>

>>>>>[We?! What are we? Royalty?]<<<<<
—Feral <14:50:21/11-30-52>

>>>>>[No. We are the research and development team at Universal Omnitech.]<<<<<
—KAM <19:22:08/11-30-52>

Both cyberware and bioware can be integrated within the same body. Treat bioware augmentations as base attributes in all cases (including when figuring astral space attributes), except when calculating for the bioware limit. (That is, if a character with a Body Rating 4 gets some bioware that modifies the Body Rating by +1, he still has a Body Index of 4, and not 5.)

IMPLANTATION AND REPAIR

Because of the intrinsically organic nature of bioware, implantation is a relatively simple process. In terms of procedural difficulty, treat any augmentation with a total Body Cost of .25 or less as cosmetic surgery (p. 144, **Shadowrun**). Consider anything between .26 and .75 as minor invasive surgery, while a total ranging from .76 to 1.5 indicates major invasive surgery. Procedures totaling more than 1.5 Body Cost Points, and/or those involving any neural bioware, count as drastic invasive surgery. Magicians and adepts who undergo drastic invasive surgery must check for Magic Attribute loss after healing. Although most individuals do not lose Essence as a result of bioware implantation, they may still lose Essence if the surgery goes awry.

Bioware that has been protein-matched and grown from the host's cellular matrix takes less of a toll on the body's functioning than does regular bioware. Such bioware is referred to as *cultured bioware.* Cultured bioware is implanted at a reduced Body Cost (the item's Body Cost multiplied by .75, a 25 percent reduction). Individual typing is complex and expensive. Though the average bioware enhancement already costs more nuyen than its cybernetic counterpart, cultured bioware is even more expensive (multiply the item's nuyen price by 4). All neural bioware is cultured bioware. Body Cost and monetary factors are already figured in to the listed values for neural bioware.

If an individual exceeds his Body Index for bioware implantation, he or she will go into system shock. While in such a state, the character must make all Body Success Tests at a Target Number +1 point higher for every point (or fraction thereof) he has exceeded his Body Index. This penalty is in effect until the Body Index returns either to 0 or to less than the character's natural, unaugmented Body Rating.

It can be a slow process for the host to fully integrate implanted bioware. Recovery time from bioware-related surgery is triple the normal period. Integration and recovery is faster for cultured bioware, however, which doubles rather than triples the recovery period. During the recovery stage, the patient must rest to allow his body to integrate the new functions. The newly implanted enhancements will not begin to function until the full period has elapsed. Note that if the patient does anything except rest (which can include non-active endeavors such as reading, watching vids, and so on), this time is added on to the necessary recovery period. Even with magically assisted healing, the full recovery time is needed to monitor and ensure the body's acceptance of the bioware.

An additional problem with bioware and magical healing is that the presence of bioware itself interferes on some level with magical healing. For magical healing on subjects with bioware, increase the target numbers by one-half the character's current Body Index, rounding down. No way around this problem exists at the current time, though researchers are diligently searching for a solution.

Perhaps the greatest advantage of bioware's organic nature is its capacity for self-repair. Once implanted, bioware becomes part of the host organism and is thus able to call on the body's natural repair functions to heal practically any damage. Depending on the level of damage taken, repair time can still be lengthy, however.

Damage to bioware systems can occur only on a single physical hit of Deadly severity. If the wound is Deadly, roll 1D6 and subtract 3. The result is the number of potential implants that might be damaged. Roll randomly to determine specifically which bioware is affected (repeats count as "No implant hit" for that particular die result). Note that dermal bioware cannot be damaged in this manner and so is not considered when determining possible system damage. Having determined exactly which bioware has been affected, roll 1D6 for each system to determine damage (subtract 1 from the die roll result if the implant is cultured bioware):

> 0 = None
> 1–2 = Light
> 3–4 = Moderate
> 5 = Serious
> 6 = Deadly

If a system suffers a Serious wound or greater, it will cease to function until healing has reduced the Damage Level to less than Serious. If a system takes enough hits to exceed Deadly damage, the system is destroyed. It cannot be healed, only removed and replaced. Bioware heals individually and in half the time normally required for general healing (p. 142–3, **Shadowrun**). Until the bioware is fully healed, the character receives no benefit from it.

>>>>>[Ah. So we are royalty, Dr. Martin.]<<<<<
—The Smiling Bandit <Strikes again!/Ha-Ha-Ha>

>>>>>[Very droll, Mr. Bandit. Seriously, folks. I don't like the idea of all this bioware being marketed before we've finished with all-out testing and final systems tweaks. Don't get me wrong. There's nothing dangerous about the bioware concept: it's shoddy execution that leads to problems and unforeseen effects.

It's the same narrow-focus syndrome we first saw with the emergence of cyberware. Everybody is working on designing and producing better organs—but only one system at a time. No one's keeping the entire body as a unit in mind while developing. What this leads to are superb augmentations that simply don't work well in combination.

One of my assistants recently ran some tests on two subjects with maximum physical and neural augmentation. He put them through a series of tests, each more demanding than the last. Poor bastards never knew what hit them. Maximum stress—maximum failure.