

PSYCHOLOGY LED ASTRAY

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CARGO CULT IN SCIENCE AND THERAPY

TOMASZ WITKOWSKI



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Psychology Led Astray: Cargo Cult in Science and Therapy

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*Let them alone; they are blind guides.
And if the blind lead the blind, both will fall into a pit.*
– Matthew 15:14

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FOREWORD

This is a very important and valuable book, both for the social scientist who values rigorous scientific inquiry and for the layperson interested in the state of modern psychology. Its value lies in part because Tomasz Witkowski has summarized so succinctly and so powerfully the many problems that plague modern psychological research and its application, and in part because he has done so in such an engaging manner. Although dealing with material that could by its nature constitute a dry and boring read, he has enlivened his critical commentary by weaving through it entertaining and informative strands of storytelling, both literary and historical.

But this is also likely to be a disturbing book for that same social scientist who values rigorous scientific inquiry, as well as for the layperson who may at some point seek psychological assistance. It is disturbing because it holds a mirror up to psychological research and practice, and much of what is reflected is not very pretty. Witkowski begins with reference to physicist Richard Feynman's characterization of social science as a cargo cult, and he makes a compelling case that there is much about modern psychology that fits with that pejorative analogy: He points to the persistence of inappropriate and misleading statistical practices that underlie much of psychological research, practices that have endured despite decades of criticism and condemnation. He addresses the essentially parochial nature of much of psychological research that, for the most part, has been conducted with participants who are representative of only a small segment of the populations of a few nations that in turn represent only a small segment of the world at large. He skewers the many fads and crazes that seem to sweep regularly through applied psychology (and in some cases, that stop sweeping and become firmly entrenched). He targets the proliferation of untested varieties of psychotherapy; the overgeneralization and exaggeration of findings from neuroscience; the creation from whole cloth of "disorders" such as the Adult Children of Alcoholics syndrome in the absence of any appropriate evidence; the continuing use of discredited treatment approaches such as Trauma Debriefing, Attachment/holding therapy, Facilitated Communication, and Dolphin Therapy. And for the layperson, he augments his critical examination of psychological therapies with guidance for anyone seeking psychotherapy.

However, Witkowski does not throw out the baby with the bathwater; he concludes his penetrating criticism by challenging Feynman's "cargo cult" appraisal and pointing out that evidence-based psychology has made very significant contributions to both understanding and improving the human condition.

This is a well-written book, and the extensive documentation that is provided makes it an excellent source of reference material as well. Every psychologist, every psychology student, and every layperson with an interest in

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psychology or with need for its services will benefit immensely from reading it. And although it is largely devoted to decrying the egregious departures from scientific rigour that afflict much of our discipline and to skewering the many false and exploitative therapies and techniques that are huckstered to a hungry public, it is ultimately a book that honours and defends science-based psychology. I highly recommend it.

James E. Alcock

INTRODUCTION

Our predecessors, in fighting to survive in an environment populated by threats to their safety, were unceasingly engaged in assessing the level of danger to their lives. In making these calculations they were at risk of fulfilling two fundamental errors – either underestimating a given threat, or overestimating it. Most likely, those who too frequently committed the error of disregard simply died out, together with the gene pool partially responsible for such mistakes. So, were the survivors those who rationally judged the level of danger? Unfortunately, in making precise estimates one runs the risk of error, and sometimes even a small mistake is enough to exclude one from the contest where the victor's spoils include passing genes on to the next generation. It is therefore most likely that our forbearers were not necessarily rational individuals, but rather those who overestimated threats, as this was not associated with any particularly serious costs. Going out of the way to walk around thickets of brush where a suspicious rustling could be heard did not demand a lot of energy, whereas skepticism of such suspicions could cost one's life. Avoiding unfamiliar animals and fear of them were more adaptive than an unhealthy curiosity, which could have wound up leading to a fatal bite. Not by accident did evolution leave nearly all of us with a deep-rooted fear of all snakes, even though there are very few poisonous breeds. Keeping our distance from snakes comes at no great cost, and protects us from the few of them whose venom would deny us the chance to remain among the living.

In this same manner, we inherited a fear of unknown secretions and scents, as well as of individuals whose skin is distinctly different from ours, whether as a result of sores, markings, injuries, or even color. In the course of evolution we also cemented our capacity to perceive cause-and-effect relations wherever possible, and to prevent the potential effects of these perceived rules – it does not cost us much to refrain from walking around a cemetery at night, to stay away from deceptive flickers of light over bogs, to spit over our left shoulder three times when a black cat crosses our path, to leave a small offering for elves and spirits both good and bad, to keep our fingers crossed, to keep our guard up on Friday the 13th, and to engage in other such activities. On the other hand, insufficient caution can lead to the most terrible of consequences. Is it, therefore, worth risking? A skeptical attitude could turn out to be a costly one.

Errors of underestimation are of particular significance in the case of identifying intentional beings. The predator which has taken us for its dinner, the enemy of the same species that is lurking and hunting for our things, our lives; this is one of the most serious threats which we have faced in the course of our species' evolution. This explains why so many irrational beliefs are of a personal nature, or assume the existence of intentional beings. This is

why we have filled the forests with gnomes and pixies, witches, werewolves, and warlocks; cemeteries, ruins, old homesteads, and castles are filled with cursed souls, ghosts, nightmares, and vampires; rivers, lakes, and swamps have been left to nymphs, ogres, and nixes; earthquakes, storms, floods, and droughts are ascribed to the gods.

The mind of the *Homo sapiens* species, which has spent at least 200,000 years exercising its ability to identify associations and dependencies, as well as intentional beings where they have never existed, is fertile soil for irrationalism and can sustain all of its forms. Critical thought is an unnatural act for such a mind, and skepticism is a dangerous attitude, yet the circumstances in which it evolved lost their significance long ago. This also concerns the minds of scholars, who, aware of their limitations, have developed a social system of control in the form of science. Unfortunately, this system is full of holes like Swiss cheese, as we have demonstrated in *Psychology Gone Wrong: The Dark Sides of Science and Therapy*.¹

The thicket of ideas existing today, whose authors battle for the largest possible number of pliable minds, is in no way reminiscent of the Pleistocene savannah where the human mind was formed. While failure to spot an intentional being stalking us from the bushes might once have finished tragically, today we may meet an equally tragic end through faith in imagined dependencies, superficial associations, and nonexistent influences. Some people pay for these convictions with their life, while others rush off into the fog of promises only to lose their time and money; there are also those who succumb to contemporary illusions and are deprived of their freedom, their children, and their fortune. These barbarian practices take place all around us, and are frequently shielded only by a thin, opaque layer of tolerance, elevated to the status of the highest value. We imitate refinement through acceptance, and afford political correctness to indifference for the activities of idiots and fraudsters. We have adopted laws which help us send people to prison for offending our religious sensibilities, regardless of how absurd these feelings are and of the suffering their implementation brings to others. At the same time, we permit the widespread insulting of rational understanding.

Psychology, a very young and immature science, engaged in one of the most complex pieces of subject matter that can be encountered in the universe, is particularly exposed to all of these problems I have written about above. Its representatives are descendants of Pleistocenes, which is why their minds are also prone to the mistakes common of *Homo*. For these reasons, this book has been written and dedicated to demasking the statements which, in the field of psychology, under the cover of promises and good intentions, hide mistaken beliefs, lies, the desire for profit, and sometimes even blind cruelty.

In the first part I examine the well-known metaphor which was applied in 1974 at a commencement speech for students of the California Institute of Technology given by Richard Feynman. This genius physicist compared the contemporary social sciences to a cargo cult. Was he justified in doing so?

Are the social sciences, including psychology, really one massive illusion similar to the ones constructed by natives living on the islands of the Pacific Ocean, waiting forlornly for planes that will bring them goods packed in boxes marked cargo? And if not, what differentiates the practices of cargo from that which we can call science? The book's title already gives a hint of the answer, but I am all too aware that it is not entirely obvious.

In the second part I achieved two goals. On the one hand, I wanted to use some trends in therapy to demonstrate how psychology has also become home to the cargo cult. The selection of examples does not, however, serve only to fit into Feynman's metaphor. The task, no less important, which I set for myself in that section was to demask successive therapies devoid of scientific bases; therapies with dangerous, or even cruel consequences. And while I succeeded in describing merely a few of the hundreds of pseudotherapies on the market, I hope that the knowledge presented in those chapters will save some readers from fruitless searches. The last chapter was titled "How to Protect Yourself? The Patient's Guide to Experimental Therapies," and it contains tips helpful in making a good decision when selecting a therapy, as well as information useful in difficult situations that arise during the course of therapy.

The third section concerns child therapy, an exceptional field. While mistakes in choosing a therapy for adults or engagement in pseudoscientific experiments with oneself playing the lead can be dismissed by declaring "adults can decide what they want to do and they have the right to do it, because they pay and they suffer the consequences of their own decisions", the selection of influences on a child and the costs that child will incur should not be at the parents' sole discretion; this is particularly true when the child's health or life is at risk. As in the preceding part, this section concludes with a guide, this time for parents, titled "Protecting Yourself From Charlatans." In it, I present helpful tips to be applied during the difficult decision of selecting a therapy for your own child.

I know that my book will not be an easy read, neither for scientists nor for countless therapists, or for those who have wasted time and resources on ineffective therapies. Many of them, I am sure, will remain unconvinced. But since prevention is the best cure, please treat my book as rather a vaccine than a treatment – may it be a chance for all those who have not yet been sucked in by pseudoscience.

As Richard Feynman said, "So we really ought to look into theories that don't work, and science that isn't science."² This appeal has long been forgotten, and what is being done in the name of psychology, the field I practice every day, goes to show that it was really never heard. Let us, then, take a serious look into science that isn't science.

¹ T. Witkowski and M. Zatonski, *Psychology Gone Wrong: The Dark Sides of Science and Therapy* (Boca Raton: Brow Walker Press, 2015).

² R. P. Feynman, "Cargo Cult Science," *Engineering and Science* 37, (1974): 10-13.

PART I:
IS PSYCHOLOGY A CARGO CULT SCIENCE?

CHAPTER 1: FROM THE PACIFIC OCEAN TO SOCIAL SCIENCES: HOW THE CARGO CULT HAS REACHED SCIENCE

The beginning of the 1930s brought fear and horror to the native inhabitants of the New Guinea Mountains. There, lo and behold, giant birds appeared in the sky and made a terrifying and deafening roar. At the very sight of those monsters flying above them, the natives fell down to the ground in terror, shielded their faces with their hands, and prayed for mercy. That phenomenon occurred so unexpectedly and was so utterly different from anything they had ever known, not only from their own personal experience, but also from their legends and stories, that they quickly got the idea that the birds must have been the enraged spirits of their ancestors. The growls of those beasts were more chilling than the rumble of an earthquake, the thud of a waterfall, or any sound made by any animal known to them. They were in no doubt that the monstrous clamor could not have been made by any terrestrial being. With the intention of alleviating such ancestral wrath, the natives decided to sacrifice their most valuable possessions – they slaughtered their pigs, roasted them, and scattered pieces of meat all over the fields as propitiatory food for their forefathers. They then picked up croton leaves and rubbed them all over their hair and backs in order to protect themselves from sinister forces.

With time, the “great birds from heaven,” as the locals called them, grew in number and the people could see the bizarre creatures landing on their ground more frequently. The islanders observed that the birds’ giant “bellies” opened up and released groups of white visitors who carried such things as tools, weapons, food supplies, and other goods from their depths. The locals watched these scenes unfolding before their eyes in deep silence and filled with anxiety. Hundreds of questions were racing around in their heads. Where do these people come from? Why are only their faces and hands uncovered? Are they white because they have descended from heaven where it is closer to the Sun? Can they conjure supernatural forces? Are they our ancestral spirits?

Naturally, the void conceived by such questions could not remain unaddressed. The initial fear gradually yielded to certainty; certainty that the “great birds from heaven” sent by their forefathers would also soon visit them, the islanders, and bring them similar goods, all packed in similar boxes labelled cargo. The people just needed to be worthy and deserving of such gifts, which they would be if they began to venerate the gods by performing rituals and making appropriate sacrifices. Soon the islanders became convinced that the rituals alone would not be a sufficient means to coax their deities, and thus they extended their activities beyond their traditional ceremonies. Observation of the white men bustling around in a manner that bore no resemblance to any activity they had known led the locals to believe that what they were seeing must be some unusual religious rites aimed at enticing

“the great birds from heaven” into landing. Filled with pious zeal, they started to emulate certain actions taken by the white people. The locals built more and more huts specifically designed to accommodate the cargo that was eventually going to be delivered to them. They constructed full-sized fake airplanes made of wood and cane – because, of course, these “great birds” were in fact airplanes – and offered sacrifices to them. At night they built bonfires to serve as landing beacons for the “birds” to see where to land, and if some aircraft unexpectedly came into their view, they fell to the ground in devotion, waiting anxiously for cargo to come...

This is just one of the abounding examples of how the cargo cult was formed on the Pacific Ocean islands. The referenced cult of the great bird from heaven developed in the early 1930s, mainly among native tribes inhabiting the mountain ranges of New Guinea. At that time, the civil administration commenced a regular, aerial reconnaissance of the island’s interior.³ The reported activities of the local tribes were not a unique occurrence. Similar cults flourished on several dozen other Pacific islands. However, they were not always centered upon the airplane motive; sometimes the natives awaited trucks or ships or, in other cases, the multiplication of money was supposed to take place. Depending on the local social context and conditions, the cults took diverse forms. The most captivating were – and still are, since the cargo cults have remained alive even until today – far and away the ones related to the faith that the airplanes were birds sent from heaven. Let us take this opportunity to take a closer look at some of them.

In 1943, the Morobe province on New Guinea in the Markham River valley saw its inhabitants build huge “radio houses” and install “telephone lines.” It all started with and resulted directly from their observation of the behavior of Japanese soldiers who had occupied the Huon peninsula since early 1942. The troops stationed in that area used telephone communications in their operations, for which temporary telephone lines were needed. Let us quote an eyewitness account of the effect this had on locals:

The ANGAU officers who were exploring the area noticed that in the villages of Arau and Wompur, bamboo poles had been placed in “radio shacks,” with “wires” (ropes) conducted first onto the roof to bamboo “insulators” and then – as if a type of an overhead system – into the adjoining “radio shack.” Each morning military drills were held with bamboo canes used as rifles. When the islanders were later asked why they were doing that, they answered that they were getting ready for the coming of Christ and the phone installation would allow them to receive the message about such Coming. ...

When there appeared fighting Allied and Japanese planes in the sky, the expectant villagers assumed it was their forefathers struggling with the Whites who had yearned to prevent the ancestors from coming and bringing cargo whatever the cost. As a consequence of that judgment, prayers became more intense and more sacrifices were offered to gods. Bonfires were built around the “observation towers” to illuminate the landing site to the ancestors. ... When the waiting

time prolonged and neither the forefathers nor cargo arrived, the islanders decided to improve their “telephone system” – they got down to replacing “insulators” and “cables” (ropes) and fitting them in different locations.⁴

As part of the *skin guria* cult prospering on New Guinea in the area of Pindiu, mock airfields were also set up near cemeteries for cargo planes that they assumed would reach those places. Moreover, the islanders expected trucks and ships loaded with goods. They were believed to arrive from America through a hole dug deep in the ground. Houses were built in the bush to be used as storage facilities for the much awaited cargo.

Followers of the Kaum cult, originating largely from the Garia tribe, likewise constructed runways in the belief that their forefathers would send cargo by air so that it would not be stolen by European marauders. The locals also made bonfires at nights and sent out light signals with lamps so the spirits could find their way in the dark and land safely on the well-prepared landing sites.

Spiritual leaders of the Peli Association, which in fact represents an extremely modern cult since it emerged as recently as the 1960s, foretold their followers that 300 American 707 Boeings would land on the very top of the Turu mountain on July 7th, 1971, all with cargo and large amounts of money onboard. Two days before the revealed date, several thousand people set off for the mountain in order to participate in the delivery of this wealth. Sadly, the prophecy was not fulfilled and the religious cult members returned to their homes in silence.⁵

Cargo cults were not without influence on the islanders’ lives. Events that took place in the 1930s on New Guinea within the Marafi cult community illustrate well the dramatic impact they made on people’s daily practices: “In anticipation of the arrival of their ancestors who had been believed to bring rice, meat, food and material goods, the people ceased their work and abandoned their fields and gardens. They were blindly obedient to Marafi’s orders, even when he demanded that girls and women be given to him as his wives.”⁶

One of the prophecies formulated by John Frum – a legendary religious leader from the island of Tanna in the New Hebrides Archipelago – put the locals on the verge of economic collapse: “John Frum also prophesied that, on his second coming, he would bring a new coinage, stamped with the image of a coconut. The people must therefore get rid of all their money of the white man’s currency. In 1941 this led to a wild spending spree; the people stopped working and the island’s economy was seriously damaged.”⁷

Yet another example is that of members of the Kaum cult on New Guinea, who concluded that they would only be deserving of a reward from the gods if they first destroyed all their belongings: “Gardens were being destroyed, pigs slaughtered and family possessions burnt just to show loyalty

to the Kaum leader's orders and to appear poor and humble in the gods' eyes so as to make them send cargo."⁸

In their religious zeal, the cargo cult followers burnt entire villages to the ground and even committed murder if it was decided that a human sacrifice was necessary to coax the gods. Despite such large-scale offerings, the cargo never came. At that point, the followers would sometimes double their efforts; they would pray yet more fervently and make even greater sacrifices. Occasionally, doubts were raised as to the credibility of the prophecies, and then the cult naturally ceased to exist. Many a time, people turned against the religious leaders themselves and, accusing them of fraud and abuse, imprisoned them. Some were eventually expelled by the very same people who had hitherto been their most passionate followers. Nevertheless, there were also cases where, after the local administration forbade some practices, the indigenous population would come to the conclusion that they were close to reaching their objective and would practice their rituals with increased determination and devotion. Cults that were dying out were replaced by new ones that revived unfulfilled hopes for material abundance. Some cargo cults have managed to linger on until this day. Islanders unfailingly build their runways and bonfires. People gather on their "airfields," around their meticulously built "radio stations," and on "control towers," continuing to look hopefully at the sky, everyone silent and focused.

The issue at hand for us is thus: how did it come to pass that an extraordinary phenomenon akin to the cargo cult could have taken root in the social sciences?

In 1974, during a graduation ceremony (the Caltech 1974 commencement address) held at the California Institute of Technology, Richard Feynman, a physics genius and Nobel prize winner, gave an exquisite speech entitled "Cargo Cult Science. Some Remarks on Science, Pseudoscience and Learning how to not Fool Yourself." Its key element was a highly symbolic comparison that left a lasting effect on the minds of people of science:

I think the educational and psychological studies I mentioned are examples of what I would like to call cargo cult science. In the South Seas there is a cargo cult of people. During the war they saw airplanes with lots of good materials, and they want the same thing to happen now. So they've arranged to make things like runways, to put fires along the sides of the runways, to make a wooden hut for a man to sit in, with two wooden pieces on his head to headphones and bars of bamboo sticking out like antennas – he's the controller – and they wait for the airplanes to land. They're doing everything right. The form is perfect. It looks exactly the way it looked before. But it doesn't work. No airplanes land. So I call these things cargo cult science, because they follow all the apparent precepts and forms of scientific investigation, but they're missing something essential, because the planes don't land.⁹

The great physicist did not restrict himself to this mere comparison. To support his metaphorical claim, Feynman provided examples in the areas of healing, psychotherapy, and parapsychology. He also related his experiences with isolation tanks (sensory deprivation chambers) and made observations on education and crime:

So I found things that even more people believe, such as that we have some knowledge of how to educate. There are big schools of reading methods and mathematics methods, and so forth, but if you notice, you'll see the reading scores keep going down – or hardly going up – in spite of the fact that we continually use these same people to improve the methods. There's a witch doctor remedy that doesn't work. It ought to be looked into; how do they know that their method should work? Another example is how to treat criminals. We obviously have made no progress – lots of theory, but no progress – in decreasing the amount of crime by the method that we use to handle criminals. Yet these things are said to be scientific. We study them.¹⁰

Other critics of the social sciences share Feynman's viewpoint. In point of fact, in his book *Social Sciences as Sorcery* Stanislaw Andreski does not refer to practices in the social sciences as a cargo cult, but he explores the very same phenomenon:

When a profession supplies services based on well-founded knowledge we should find a perceptible positive connection between the number of practitioners in relation to the population and the results achieved. Thus, in country which has an abundance of telecommunication engineers, the provision of telephonic facilities will normally be better than in a country which has only a few specialists of this kind. The levels of morality will be lower in countries or regions where there are many doctors and nurses than in places where they are few and far between. Accounts will be more generally and efficiently kept in countries with many trained accountants than where they are scarce. We could go on multiplying examples, but the foregoing suffice to establish the point. And now, what are the benefits produced by sociology and psychology? ... So to examine the validity of the claim that these are highly useful branches of knowledge, let us ask what their contribution to mankind's welfare is supposed to be. To judge by the cues from training courses and textbooks, the practical usefulness of psychology consists of helping people to find their niche in society, to adapt themselves to it painlessly, and to dwell therein contentedly and in harmony with their companions. So, we should find that in countries, regions, institutions or sectors where the services of psychologists are widely used, families are more enduring, bonds between the spouses, siblings, parents and children stronger and warmer, relations between colleagues more harmonious, the treatment of recipients of aid better, vandals, criminals and drug addicts fewer, than in places or groups which do not avail themselves of the psychologists' skills. On this basis we could infer that the blessed country of harmony and peace is of course the United States; and that ought to have been becoming more and more

so during the last quarter of the century in step with the growth in numbers of sociologists, psychologists and political scientists.¹¹

Where Feynman concludes that there is no connection between efforts taken by representatives of the social sciences and the condition of the field within their main interest, Andreski takes the point further. He puts the blame on the scientists themselves for the fact that some problems continuously grow: “It may be objected that this is no argument, that the causation went the other way round, with the increase in drug addiction, crime, divorce, race riots and other social ills creating the demand for more healers. Maybe; but even accepting this view, it would still appear that the flood of therapists has produced no improvement. What, however, suggests that they may be stimulating rather than curing the sickness is that the acceleration in the growth of their numbers began before the upturn in the curves of crime and drug addiction.”¹²

Both Feynman and Andreski look into reasons why the discipline is in such an alarming condition. According to the former, the transformation of science into a cargo cult has taken place mostly due to the lack of honesty on the part of investigators themselves. “Honesty” here should be understood in a particular manner:

It’s a kind of scientific integrity, a principle of scientific thought that corresponds to a kind of utter honesty – a kind of leaning over backwards. For example, if you’re doing an experiment, you should report everything that you think might make it invalid – not only what you think is right about it: other causes that could possibly explain your results; and things you thought of that you’ve eliminated by some other experiment, and how they worked – to make sure the other fellow can tell they have been eliminated.

Details that could throw doubt on your interpretation must be given, if you know them. You must do the best you can – if you know anything at all wrong, or possibly wrong – to explain it.¹³

At the same time, Feynman cautions scientists against yielding to the temptation of self-deception: “The first principle is that you must not fool yourself – and you are the easiest person to fool. So you have to be very careful about that. After you’ve not fooled yourself, it’s easy not to fool other scientists. You just have to be honest in a conventional way after that.”¹⁴

The failure of scientists to maintain integrity towards themselves, their peers, and those outside science represents, in Feynman’s view, the underlying reason for science turning into a cargo cult. In his study, Andreski makes a more radical point. As a sociologist by education, he argues that distortions of reality stem from social factors.

Though formidable enough, the methodological difficulties appear trivial in comparison with the fundamental obstacles to the development of an exact sci-

ence of society which puts it on an entirely different plane from the natural sciences: namely the fact that human beings react to what is said about them. More than that of his colleagues in the natural sciences, the position of an “expert” in the study of human behaviour resembles that of a sorcerer who can make the crops come up or the rain fall by uttering an incantation. And because the facts with which he deals are seldom verifiable, his customers are able to demand to be told what they like to hear, and will punish the uncooperative soothsayer who insists on saying what they would rather not know – as the princes used to punish the court physicians for failing to cure them. Moreover, as people want to achieve their ends by influencing others, they will always try to cajole, bully or bribe the witch-doctor into using his powers for their benefit and uttering the needed incantation ... or at least telling them something pleasing. And why should he resist threats or temptations when in his specialty it is difficult to prove or disapprove anything, that he can with impunity indulge his fancy, pander to his listeners’ loves and hates or even peddle conscious lies. His dilemma, however, stems from the difficulty of retracing his steps; because very soon he passes the point of no return after which it becomes too painful to admit that he has wasted years pursuing chimeras, let alone to confess that he has been talking advantage of the public’s gullibility. So, to allay his gnawing doubts, anxieties and guilt, he is compelled to take the line of least resistance by spinning more and more intricate webs of fiction and falsehood, while paying ever more ardent lip-service to the ideals of objectivity and the pursuit of truth.¹⁵

Contrary to Feynman, who sees practitioners of the social sciences as victims of self-deception, Andreski builds up an image of a cynical, obsequious scientist who has a personal interest in deforming reality.

The easiest way out is always not to worry unduly about the truth, and to tell people what they want to hear, while the secret of success is to be able to guess what it is that they want to hear at the given time and place. Possessing only a very approximate and tentative knowledge, mostly of the rule-of-thumb kind, and yet able to exert much influence through his utterances, a practitioner of the social sciences often resembles a witch-doctor who speaks with a view to the effects his words may have rather than to their factual correctness; and then invents fables to support what he said, and to justify his position in the society.¹⁶

Other critics of the social sciences are of the same mind as Feynman and Andreski. Marvin Minsky states unequivocally that to this day psychology has been unable to develop tools that would allow understanding of the nature of thinking processes or consciousness.¹⁷ Many authors disapprove of the jargon of social sciences, which they claim is frequently employed to make terms sound more complicated than is necessary. By using such overblown verbosity some simply try to give the impression that they have something wise to say.¹⁸ Karl Popper ruthlessly reproaches those scientists for such practices: “Every intellectual has a very special responsibility. He has the privilege and opportunity of studying. In return, he owes it to his fellow men (or ‘to society’) to represent the results of his study as simply, clearly and modestly as he

can. The worst thing that intellectuals can do – the cardinal sin – is to try to set themselves up as great prophets vis-à-vis their fellow men and to impress them with puzzling philosophies. Anyone who cannot speak simply and clearly should say nothing and continue to work until he can do so.”¹⁹

Later in this part of the book I will make an effort to determine which factors responsible for the transformation of social sciences into a cargo cult have played the most significant roles in the process. However, before I investigate the matter, let me first shed some light on how Feynman’s metaphor, though based on observations rather than on research, has begun to live a life of its own. A Google search for the expression “cargo cult science” brings nearly 30,000 hits. In the majority of cases, online texts accessed through the Internet use this term for some kind of pseudoscience or activities that are doomed to fail. Scientific databases, such as EBSCO, also offer a high number of papers that include the “cargo cult” phrase. Just a handful of titles selected at random provide clues as to how the metaphor has been contextualized:

- “Neuro-linguistic programming: Cargo cult psychology?”²⁰
- “Cargo cult science, armchair empiricism and the idea of violent conflict.”²¹
- “The urban question as cargo cult: Opportunities for a new urban pedagogy.”²²
- “Classroom research and cargo cults.”²³
- “Environmental optimism: Cargo cults in modern society.”²⁴
- “Dominance theater, slam-a-thon, and cargo cults: Three illustrations of how using conceptual metaphors in qualitative research works.”²⁵
- “On cargo cults and educational innovation.”²⁶
- “Cargo-cult city planning.”²⁷
- “Psychology – ‘a cargo cult science’? In search of developmental psychology paradigm.”²⁸

It seems that Feynman’s metaphor has already established itself in the public domain. And though I value Feynman and his perspective on science, I decided to test to what extent his famous comparison was justified by the reality of the times it comes from, and also whether his observations would be confirmed today. Here is the outcome of my investigation.

To start with, in Feynman’s times the United States saw a 300% rise in the number of serious crimes, such as murders, rapes, or armed robberies, committed per capita (comparing data from 1960 and 1986).²⁹ One can imagine how much research was conducted on crime, rehabilitation, and other related issues at that time, how many articles were published, and how many people pursued an academic career investigating these aspects of social life. So Feynman gets a point for that.

Statistics on teenage suicides in the United States were similarly discouraging. Between 1950 and 1980, the number of suicides in this age bracket also

increased by 300%. The highest rise was noted among white teenagers from better-off social classes. For instance, 1985 alone saw a total of 29,253 suicides, of which 1,339 were committed by whites aged 15–19.³⁰ According to the PsycLIT base, at that time 1,642 reviewed articles on suicide were published. This massive research energy combined with tragic statistics seem to support Feynman's view on the social sciences.

Figures showing mental health conditions appear equally gloomy. In 1955, 1.7 million patients were admitted to psychiatric hospitals in the United States, with the number reaching 6.4 million in 1975.³¹ This amounts to a nearly four-fold increase. During the same period, thousands of clinical psychologists were engaged in intense efforts to improve methods of therapy, prophylaxis, and other aspects. Ultimately, if their labor had borne fruit, this should have been reflected in the statistics.

As Feynman had predicted, the quality of education deteriorated as well. The 1967 average mathematics SAT test score in high school graduates was 466, and in 1984 it went down to 426. A corresponding decline was reported in verbal skills test scores.³²

Similar statistics relating to ever-worsening serious problems and pathologies are available in abundance. It is sad to say, but such recitals are true not only for Feynman's times. They also apply to the present day and seem even more shocking today. Many authors, such as Marcia Angel, claim that:

It seems that Americans are in the midst of a raging epidemic of mental illness, at least as judged by the increase in the numbers treated for it. The tally of those who are so disabled by mental disorders that they qualify for Supplemental Security Income (SSI) or Social Security Disability Insurance (SSDI) increased nearly two and a half times between 1987 and 2007 – from one in 184 Americans to one in seventy-six. For children, the rise is even more startling – a thirty-five-fold increase in the same two decades. Mental illness is now the leading cause of disability in children, well ahead of physical disabilities like cerebral palsy or Down syndrome, for which the federal programs were created.

A large survey of randomly selected adults, sponsored by the National Institute of Mental Health (NIMH) and conducted between 2001 and 2003, found that an astonishing 46 percent met criteria established by the American Psychiatric Association (APA) for having had at least one mental illness within four broad categories at some time in their lives.³³

The World Health Organization (WHO) on its website states that in 2012 more than 350 million people suffered from depression,³⁴ which represented nearly five percent of the entire world population. Of this number, a million committed suicide.³⁵ These figures have shot up surprisingly fast, as in 2010 this rate was substantially lower and totaled 298 million people, accounting for 4.3% of the global population.³⁶

The rise in the number of depression cases is reported simultaneously with an increase in the number of mental illnesses and disorders that affect