CHAPTER 1

Challenges to Medicine at the End of Its "Golden Age"

1.1 How Medicine Became the Patient

During the nineteenth century, advances in physics, chemistry, and biology converged to form the basis for scientific medicine. Since then, medicine has achieved a historically unparalleled global dominance, grown into a global industry, and changed the previously pluralistic landscape of healing practices throughout the world. The expansion reached its zenith during the second half of the twentieth century, which historians and medical professionals often portray as the "golden age of medicine" (Porter 2002; Kernahan 2012; O'Mahony 2019a; 2019b),[1] characterized by high levels of prestige and confidence in medical institutions and in the efficacy of medical interventions.

Whether such confidence is based on measurable therapeutic successes and contributions to longevity is, however, contested, and "revolutionary narratives" about advances sometimes interfere with more nuanced analyses (Farmer et al. 2016). Already in the nineteenth century, pathologist Rudolf Virchow maintained that "the improvement of medicine may eventually prolong human life, but the improvement of social conditions can achieve this result more rapidly and more successfully" (quoted from DeWalt and Pincus 2003). A century later, physician Thomas McKeown argued that the reduction of mortality observed during the twentieth century is largely attributable not to medicine, but to better nutrition, housing, and public health measures (McKeown 1976).[2] Writing in a time

[1] The exact temporal boundaries of the "golden age" are not drawn consistently in the literature. Some maintain that the mid part of the twentieth century constitutes the golden age, sometime after World War II (Kernahan 2012), while some associate it with the "conquest" of epidemic infectious disease (Brandt and Gardner 2020).

[2] Some of McKeown's most forceful claims were based on studying mortality decline in England and Wales. Since then, researchers have pointed to similar examples during the mid-twentieth century (China 1949–79; Cuba 1959–79) where medicine has played only a minor role in mortality decline compared to improvements in housing, sanitation, and education (Farmer et al. 2016).

characterized by radical criticisms of societal institutions, McKeown's work became part of a critical movement that advocated the reevaluation of medicine's efficiency and societal role.

On the more radical side of this movement, some argued not only that sanitation, nutrition, and housing were more important determinants of health than medicine, but also that medicine has become an institution of social control (Zola 1972) and a threat to health (Illich 1974). Ivan Illich's 1974 paper "Medical Nemesis" in *The Lancet*, followed by his bestselling attack on modern medicine with the same title distinguished three types of iatrogenesis: clinical (i.e., direct harm by treatment), social (i.e., medicalization of life problems), and cultural (i.e., the loss of traditional ways of dealing with suffering). However, his radical indictment of medicine as "institutional hubris" (Illich 1974, 922) and his calls for "deprofessionalisation of medicine" (Illich 1974, 921) were dismissed by many medical professionals. His criticism was polemic, radical (i.e., maintaining that medicine probably did more harm than good), selective (e.g., downplaying successful aspects of medicine in relief and rehabilitation), driven by a more general criticism of modernity, and, importantly for our purposes, it came from outside of medicine.

Today, almost five decades after the publication of "Medical Nemesis," medicine is increasingly subject to various forms of criticism that raise themes familiar from Illich's work. The criticism is much more comprehensive, nuanced, and comes from inside medicine, that is, from leading medical professionals, which makes it harder to ignore. For example, in a publication in *The Lancet* (2019a) and a book with the evocative title *Can Medicine Be Cured?* (2019b), prominent gastroenterologist Seamus O'Mahony notes that since entering medicine toward the end of its "golden age," he has witnessed decline and corruption in medical research and medical practice. He raises questions about three aspects of medicine.

First, O'Mahony maintains that "medical research . . . has itself become a patient," increasingly scrutinized by metaresearchers. Second, he argues that "medicine has extended its dominion over nearly every aspect of human life," herding "entire populations – through screening, awareness raising, disease mongering, and preventive prescribing – into patienthood" (O'Mahony 2019a, 1798–9; 2019b, 25–6). Third, he laments having witnessed "the public's disenchantment with medicine," as expressed in patient reports of their experiences in various health care settings. Patients have become, as O'Mahony (2019b, 330) puts it, "a problem to be processed by the hospital's conveyor belt; it is hardly surprising that they often feel that nobody seems to be in charge, or cares about them as individuals."

The criticism by leading medical professionals like O'Mahony is worthy of further investigation, especially since the criticism and other challenges facing medicine (e.g., an aging population, explosion of costs) seem to indicate that medicine's scope and role in society is fated to be altered in the twenty-first century. At this critical threshold, providing a firm grasp of dominant forms of criticism, explicating the norms they appeal to, and exploring the problems they draw attention to can assist an informed deliberation about the future of medicine.

To contribute to achieving this task, the chapter proceeds in three steps. First, it distinguishes three sorts of criticism that O'Mahony's work touches on, but that can be found expressed in much greater detail elsewhere in the literature.[3] The criticism raises questions about medical research (skepticism), the use of medical means to address nonmedical problems (overmedicalization), and about features of medical care (objectification). Second, upon distinguishing forms of criticism and the nature of the norms they appeal to, it is argued that the criticism of medicine is *social*, *internal*, and appeals to *constitutive norms* of medicine. Third, it is argued that the criticism converges on more fundamental questions about (a) the aim of medicine, (b) the nature of medicine, and, less directly, (c) key concepts in medicine. Addressing these questions will not only help assess the criticism, but also contribute to a deliberation about the role of medicine in the twenty-first century.

1.2 Skepticism

When O'Mahony maintains that medical research "has become the patient," he touches on a growing skepticism about whether the status and confidence that medicine has enjoyed in contemporary Western societies is justified. The roots of skepticism go back to the 1960s, when the prestige of the medical establishment suffered from catastrophic effects of new drugs,[4] as well as from the recognition that environmental hygiene, improved nutrition, and better living standards have contributed more than clinical medicine to guaranteeing longer lifespans.

[3] While the comprehensive analysis of forms of criticism does not rest on O'Mahony's observations, his work is useful to mention, not only because it briefly introduces topics from the perspective of a physician, but also because it is a prominent example of relatively fierce criticism from a medical professional published in a leading medical journal.

[4] Perhaps, most notably, thalidomide, which caused deformities in more than 10,000 newborns and provoked firmer regulations for drug licensing.

In the contemporary landscape, we may distinguish two types of skepticism (see also Stegenga 2018; Broadbent 2019). *Historical skepticism* argues that mainstream medicine only merits its status since the emergence of modern clinical trials and since it acquired a genuine capacity to extend life during the mid-twentieth century.[5] Prior to this stage, despite all the progress in science, over the course of two thousand years medicine only achieved a few reasonably effective interventions (e.g., quinine for malaria, orange and lemon juice for scurvy, opium for pain relief, colchicum to treat gout, amyl nitrate to dilate arteries, herbal preparations as purgatives), and doctors knew that many of their interventions were ineffective (Porter 1997; 2002; Wootton 2006). Improvement had been achieved by discontinuing certain procedures (e.g., bloodletting) and introducing new procedures (e.g., hand washing), while other improvements (e.g., the retreat of diseases like diphtheria, typhoid, and tuberculosis) were attributable to better diet, housing, and working conditions. Even the striking victory against disease due to the introduction of a smallpox vaccination "came not through 'science' but through embracing popular medical folklore" (Porter 1997, 11).

Worse, some argue that prior to the twentieth century, medicine might have done more harm than good, in part because it long held on to interventions based on humoral theory, which were ineffective or even detrimental to health.[6] For some two thousand years, alongside purging and vomiting, the principal therapy was bloodletting (phlebotomy or venesection), which weakened and sometimes even killed patients. Without the concept of infectious disease and persuaded that no two illnesses are identical, effectiveness could not be measured, and the commitment to this tradition often outweighed any contrary evidence.[7] The emergence of larger hospitals in the eighteenth century, often seen as a sign of great progress, in

[5] Indeed, evidence-based medicine – a movement stressing that clinical decisions ought to be made on the basis of the best available evidence of effectiveness – is in part motivated by recognizing that the history of medicine is dominated by harmful or ineffective interventions.

[6] The humoral theory of disease in some general form remained popular among physicians until the mid-nineteenth century. However, there were also prominent exceptions. For example, William Harvey's discovery in the seventeenth century that blood circulates in the body via a closed system of vessels contradicted what the *humoral theory* predicted about the motion of blood (Wootton 2006, 47–8 and 95–6).

[7] A good example is the history of scurvy, a condition caused by vitamin C deficiency, of which Chapter 5 offers a detailed discussion. The important point here is that although sailors already knew about the effectiveness of lemon juice as a prophylactic in the early seventeenth century, physicians trained in humoral pathology resisted the idea even after some initial clinical studies confirmed what the sailors reported. Instead, they remained confident that the correct diagnosis was "humoral imbalance" and that the condition called for bloodletting and vomiting induced by salt water (Wootton 2006, 162–3).

many cases actually made medicine more dangerous. For example, while mothers and infants had previously been relatively safe in the care of informally trained midwives, nineteenth-century hospitals significantly increased the risk of death, because doctors inadvertently spread infections from one patient to the other on their instruments and hands.

Contemporary skepticism draws attention to present-day challenges and is promoted by some prominent and respected physicians and epidemiologists. In the extremely influential article "Why Most Published Research Findings Are False," published in the journal *PLoS Medicine*, John P. A. Ioannidis explored the reliability of published medical research findings and concluded that the majority of published research claims are false (Ioannidis 2005; see also 2016).[8] In similar ways, prompted in part by escalating health care costs and the growing preparedness to render medicine more evidence based, a growing amount of meta-research casts doubt on the efficacy of some widely used treatments, identifying factors that can influence the choice of topic, study design, and methodology in ways that potentially undermine the validity of published research findings. Building on this line of research, Jacob Stegenga (2018) argues that it is difficult to vindicate our confidence in the efficiency of contemporary treatments to eliminate the symptoms and underlying causes of disease. In fact, Stegenga (2018, 11) concludes that except for a few "magic bullets," we ought to have low confidence in the effectiveness of interventions.

Stegenga (2018) formulates the argument by using Bayes's Theorem, which calculates the probability of a hypothesis (H) provided evidence (E) that appears to support H. The probability of H given E, P(H|E), depends on three other probabilities: (i) the prior probability of H being true, regardless of E (i.e., P(H)); (ii) the probability of the evidence given H (i.e., P(E|H)); and (iii) the prior probability of E, irrespective of H (i.e., P(E)). The resulting equation, $P(H|E) = P(H) \times P(E|H) / P(E)$*, states that the probability of H given E is equal to the prior probability of H, multiplied by the probability of E given the hypothesis, divided by the prior probability of E.[9]

[8] Many have since criticized some of the radical statements in Ioannidis's work, arguing that the chosen model incorrectly lowers the evidential value of studies (see, e.g., Goodman and Greenland 2007). However, what is more important for our purposes is that the critics tend to agree with Ioannidis's general points about the challenges in medical research and that the problems with different forms of bias are more severe than generally assumed.

[9] P(H|E) is low if (i) P(H) is low (i.e., if it is unlikely, regardless of E, that H is true), (ii) P(E|H) is low (i.e., the observed E is not very probable given H), and (iii) P(E) is high (i.e., it is very likely that E would be observed regardless of whether H is true).

How does this support the skeptical thesis that we ought to have low confidence in the effectiveness of interventions? For P(H|E) to be low (i.e., the posterior probability of the medical intervention is effective, given evidence that appears to support its effectiveness) three conditions have to be met.

(1) P(H) is low (i.e., the prior probability that a particular medical intervention is effective is low).

(2) P(E|H) is low (i.e., the evidence observed is improbable given the hypothesis that the intervention is effective).

(3) P(E) is high (i.e., the prior probability of observing evidence that supports the intervention is high, regardless of whether it is actually effective).

Stegenga offers support for the thesis that these three conditions are met in current research, and the main points may be summarized as follows. In support of (1), one can give an inductive argument from the fact that most of the medical interventions tested prove unsuccessful. Drug companies test a large number of interventions that fail and never make it to the market. But even among those that pass the tests and reach the consumer, a significant number are later restricted or entirely withdrawn.[10] It is certainly possible that highly successful "magic bullets" (e.g., antibiotics, vaccines, insulin for diabetic treatment) that target a highly specific cause of disease in an effective manner (without many side effects) will be discovered. But there are reasons to remain skeptical about the chances of such discoveries. First, magic bullets are "low-hanging fruit," which means that most of them have probably been discovered already. Second, it is very difficult to devise an intervention that is both highly specific and effectively targets diseases with complex and poorly understood underlying causal mechanisms. The current tools for intervening, like various forms of chemotherapy, are often rather crude and nonspecific.

In support of (2), Stegenga stresses that in many cases interventions are little better than placebo, that effect sizes in trials tend to be low, and that studies frequently reach discordant results (Stegenga 2018, 171–5). Good examples of particularly low effect sizes in widely prescribed medications include antidepressants and cholesterol-lowering drugs (statins). The best available evidence suggests that they have minimal positive effects. While selective serotonin reuptake inhibitors (SSRIs) only do slightly better than

[10] Examples include isotretinoin, rosiglitazone, valdecoxib, fenfluramine, sibutramine, cerivastatin, and nefazodone.

a placebo at managing depression (Kirsch 2019), statins lower cholesterol levels, but fail to clearly decrease mortality in asymptomatic patients: in order to avoid a single death from any cause, physicians have to prescribe them to about 244 people with no history of heart disease for five years (see Redberg and Katz 2016). Moreover, the evidence for effectiveness is uncertain in many cases, with some studies suggesting positive effects, while others suggesting no effects or negative effects.

In support of (3), it is to be expected to find evidence indicating that an intervention is effective *even if it is not*, in part because the institutional structure of medical research is biased in favor of positive evidence. Evidential standards (e.g., meta-analyses and systematic reviews, hierarchy of evidence, randomized controlled trials) do not eliminate problems with the malleability of research methods. Meta-analysis involves subjective judgments about inclusion criteria, the weight given to studies, and the correct interpretation of the results, such that two groups of researchers analyzing the same evidence can report different conclusions. The inter-rater and inter-tool reliability for assessing the quality of evidence is not very high, which means that such studies may not be able to effectively identify biases. In addition, the structure of medical science might incentivize exploiting the malleability of the methods to produce evidence of positive effects, especially in cases in which trials are conducted by the companies who manufacture the products being tested. Potentially aggravating problems of malleability, pharmaceutical companies and scientists have a vested interest in reporting positive effects, while there is a bias against reporting negative findings and no incentive to replicate findings.[11]

Overall, bearing in mind the factors that support (1)–(3), the limitations of professional standards (e.g., peer reviewers can evaluate the quality of the submitted studies, but these might consist of a biased sample of the total evidence), and the limits of regulatory oversight, the upshot is this: even after taking into account seemingly solid evidence in favor of the effectiveness of an intervention, we ought still to assign only a low probability to the claim that it is effective. The skeptical conclusion in Stegenga's work is based on an inference to the best explanation that uses

[11] For an example, consider the case of a drug for type 2 diabetes, rosiglitazone (Stegenga 2018, 148). A lawsuit required the manufacturer GlaxoSmithKline to disclose the entire dataset accumulated from forty-two trials. It turned out that only seven trials had published their results, all of which suggested that the drug was effective. The drug was approved by the FDA in 1999, but a meta-analysis based on the data from all forty-two trials found that it increased the risk of heart attack by 43 percent (Nissen 2010). While on the market, the drug is estimated to have caused more than 80,000 heart attacks.

numerous examples and is supported by the identification of methodological, social, and financial factors. It is consistent with the fact that we generally underestimate the role of nonmedical interventions like changes in hygiene and nutrition in improving health and the role of medicine in adverse health outcomes.[12] Accepting the conclusion does not require denying the possibility of genuine medical breakthroughs (e.g., genetic engineering leading to highly effective interventions), but it supports a skeptical attitude toward claims about them. One important limitation that we will return to in Chapter 8 is that the assessment of the effectiveness of medical interventions is based on a narrow notion of what constitutes "medical," construed essentially as using pharmaceuticals to target diseases.

1.3 Overmedicalization

The second issue that O'Mahony mentions is linked to the fact that, parallel to the ascent in the standing of the medical profession, a growing number of issues and conditions came to be portrayed and comprehended in medical terms, including pregnancy, obesity, alcoholism, lack of success in education, and drug addiction. During the 1970s, the term "medicalization" was coined to describe such processes by which conditions previously considered as nonmedical are increasingly defined and treated as medical problems (typically as illness, disorder, or disease) and handled by medical professionals. For example, saying that pregnancy has been medicalized means that pregnancy is now seen as a potential disruption to health that requires expert medical care and risk management.

As such, medicalization is a value neutral, descriptive term designating cases in which medical means are used for conditions hitherto considered as outside the medical realm. For instance, medicalization occurred when a set of problems known as shell shock was redescribed as the symptoms of the medical condition post-traumatic stress disorder (PTSD), or when alcoholism was transformed from a moral to a primarily medical problem. The identification of a previously overlooked disease can also be seen as the result of medicalization, and so can efficient birth control (Parens 2013).

[12] In a widely discussed paper, Makary and Daniel (2016) have calculated that every year more than 250,000 preventable deaths occur from medical mistakes in the US alone. While this number is likely inflated due to methodological issues (see Shojania and Dixon-Woods 2017), other studies find that approximately 3.5–4.5 percent of hospital deaths are due to preventable medical error.

In contrast, *overmedicalization* involves the improper use of medical resources. Of course, improper use as such is not sufficient for overmedicalization: physicians assisting in torture arguably put to use medical resources in an improper fashion without being involved in overmedicalization. Instead, overmedicalization refers to the improper use of medical resources to address political, social, and personal problems, often replacing established practices that traditionally addressed them. It can occur in two ways. A condition can be medicalized with or without *pathologization*, that is, attaining the label of a pathological condition (Sholl 2017). Overmedicalization that does not involve pathologization describes a change toward comprehending various types of medical interventions as justified with respect to a condition. Critics typically speak about overmedicalization in this sense with respect to pregnancy, fertility, and death. Overmedicalization that involves pathologization describes how certain conditions that enter the medical jurisdiction become labelled as pathological (e.g., alcoholism, epilepsy). Critics typically argue that a category error occurs that turns life problems and normal human variations into pathological conditions (Parens 2013). For example, while individuals living in social isolation due to being severely shy and socially awkward were traditionally not considered as suffering from a medical condition, they are today increasingly diagnosed with mental disorders like social phobia or social anxiety disorder, which imply some difference in kind from "normal shyness."

Critics argue that overmedicalization has a number of potentially severe consequences. First, by expanding the category of what demands medical action, overmedicalization increases the number of people deemed to be in need of medical intervention by many millions and contributes to the explosion of the costs of medical treatment. In the case of social phobia or social anxiety disorder, at any given time, almost 5 percent of the US population meets the diagnostic criteria. For some, this shows that overmedicalization is driven by medical industries that stand to earn massive profits by classifying as pathological conditions that were previously perceived as variations of normal states.[13] Such practices of "disease-mongering" aim to increase the number of people who can be diagnosed by relaxing diagnostic criteria, by constructing more or less bogus disease categories, or by transforming risk factors or precursors to disease into diseases. For example, the decision to lower the diagnostic threshold for high cholesterol

[13] The FDA gave permission to advertise certain SSRIs like paroxetine as a drug for social phobia; SmithKline launched an effective campaign ad with the slogan, "Imagine being allergic to people."

was surrounded by controversy, not merely for clinical reasons, but also because the vast majority of the experts on the panel that revised the relevant guidelines had financial ties to pharmaceutical companies that manufactured cholesterol-lowering drugs (Moynihan and Cassels 2005).

Some of the structural characteristics of regulating the industry offer financial incentives for disease-mongering. For example, a company can hold on to the protection of a patent in case a new use for the product is developed. Eli Lilly supported defining a new disease called premenstrual dysphoric disorder (PMDD), rebranded fluoxetine as Sarafem, and received FDA approval for promoting Sarafem for PMDD. This secured the extension of their patent on fluoxetine, at a time when many disagreed that PMDD was a genuine disease. The FDA approval in fact came before the APA decided to recognize PMDD as a distinct psychiatric condition (see, e.g., Mintzes 2006).

Second, the worry is that overmedicalization in some cases does not reflect clinical observations or findings, but predominantly social judgments about what is considered to be appropriate behavior (Scott 2006; Conrad 2007). More precisely, overmedicalization might be taken to reflect disapprobation of behavior that is perceived as failing to conform to dominant values in contemporary culture. In the case of shyness, the relevant dominant values are those attached to being self-confident, talkative, assertive, and comfortable with self-presentation.

Third, overmedicalization changes the focus of problem-solving to individual-level medical interventions and away from the political and social structures that generate conditions under which being severely shy is increasingly a debilitating problem. This obstructs the emergence of genuine public deliberation that might lead to rethinking whether the relevant dominant values in contemporary culture – such as the value of capacity to perform with ease in the social realm – should be resisted. Such deliberation might lead us to revise entrenched ideas about the acceptable norms of navigating social situations in a way that would allow recognizing a larger natural variation in social skills and behavior.

Fourth, overmedicalization appears to be causally implicated in an increase in the number of healthy people who are seriously concerned about their health. In a development that seems puzzling in light of gains in lifespan and health, people increasingly see their lives as acutely threatened by real but trivial risks or sometimes by downright fictional hazards (e.g., cell phones, low radiation) (Le Fanu 2012). It is highly probable that the explosion of conditions and risk factors that are now classified as pathological has contributed to this development.

Fifth, overmedicalization may lead to overdiagnosis and overtreatment, for example, in cases in which physicians accurately diagnose a patient as having the pathophysiological basis P of a disease D, where P would never have led to symptoms of disease D and would not have interfered with the patient's life. This case becomes one of overtreatment if the patient in question is treated for D by intervening on P. Overtreatment in this case does not directly result from lowering the thresholds for D, but from deploying more precise ways of detection in very early stages. For example, some argue that screening programs for prostate cancer lead to overdiagnosis and overtreatment (Loeb et al. 2014). The point is that a large number of patients diagnosed with prostate cancer might receive unnecessary treatment, as they would not develop symptoms if left untreated.

1.4 Objectification

Finally, O'Mahony identifies a different and growing problem with respect to medical care. Dissatisfaction with mainstream medicine among patients as well as practitioners has grown during the last decades, amplified by the implementation of new managerial strategies and cost-capping initiatives (in welfare states) and by growing suspicion that medicine is excessively driven by profit (e.g., in the US). Critics argue that mainstream medicine fails to offer empathetic care driven by patient need. Patients seek not only scientifically based management of their conditions, but also what is often described as a "humane" care that also addresses the existential or psychological aspects of those ailments. They want to be relieved and cured, but they also seek explanations of their predicaments, a sense of wholeness, and control (Porter 1997, 51). Patients increasingly complain that such needs are not met and that the care they receive is often "objectified" or "dehumanized." Without being able to do justice to the full complexity of the phenomenon, some clarification can be achieved by briefly examining factors like *technological mediation* and *deindividualization* in health care environments that critics link to objectification.

First, the advances in therapeutic and diagnostic devices have contributed to the emergence of technologically mediated management that suppresses dimensions of care that would address the psychological and social dimensions of ailments (Blumer and Meyer 2006; Marcum 2012). The emphasis on this type of management and its increased dependence on sophisticated technology stimulates the tendency to sideline the patient's illness experience from the clinical consultation. It predisposes physicians toward perceiving the body of the patient as a system

constituted by cooperating and separately operating parts, and such a focus contributes to perceiving the patient's individuality, subjective experience, and personal narrative as something that risks obfuscating direct access to the disease. The patient as a person is at risk of disappearing in the encounter, eroding the conditions for an intimate relationship with a medical professional that many patients associate with earlier stages of medical practice. Critics argue that with this development, medicine has lost something crucial. As Cassell (2004, ii) puts it, medical doctors are now "less skilled at what were once thought to be the basic skills of doctors – discovering the history of an illness through questioning and physical examination, and working toward healing the whole person" (see also Weatherall 1996, 17).

Second, health care environments tend to deindividualize both patients and physicians, which probably contributes to the experience of receiving objectifying care, sometimes also described as "dehumanizing." In a mutually reinforcing process, the deindividualized appearance of the patients (e.g., wearing uniform coats and gowns) might make them appear less as individual agents that require empathy, while the deindividualized appearance of the physicians (e.g., wearing uniform white coats) might mask their individual responsibility toward patients. The nature of these environments might also contribute to practices that increase objectification. For example, patients are sometimes labeled in terms of their illnesses ("diabetic" instead of "a person with diabetes") or referred to by acronyms or by the body part being operatively intervened on, both of which collapse the distance between the person and the disease (see, e.g., Haslam et al. 2007; Todres, Galvin, and Holloway 2009; Haque and Waytz 2012). Such practices increase the likelihood of medical professionals forgetting that they are engaged with people who are in vulnerable states, who grant them access to highly private aspects of their life, and whose trust they need in order to be able to care for them (Engelhardt and Jotterand 2008). Highly specialized health care that focuses entirely on the disease often translates illness experiences into several different diagnoses in a way that does not render their predicament transparent and meaningful to the patient, leading to experiences of objectification. As a patient puts it, "you do not feel human, but . . . as an object on a conveyor belt, no one really cares. They have decided, medical science has determined, that's the way it is" (Berglund et al. 2012). Such reproaches do not target human error in the work of physicians or nurses, but systemic problems and institutional culture.

Of course, voicing these concerns does not require denial of the numerous benefits associated with using technologically sophisticated devices or

the benefits of focusing more narrowly on less than the whole human being in diagnosis and intervention.[14] For example, pharmacological treatments of mental disorders may necessitate switching from the language of subjective symptoms to that of biochemical processes, even if it may lead to patients feeling objectified. Also, in certain scenarios, there might be some benefits associated with not focusing on the patient as a fully social being. The training of physicians encourages effective regulation of empathy, which dampens emotional responses that result from perceiving others suffering and can help physicians deal with stress (Di Bernardo et al. 2011). Many medical procedures involve inflicting pain on the patient, and it is likely that such procedures could be efficient without significantly reducing the distress that comes with causing pain.

The experience of unmet needs during medical care may be one of the reasons for the growing popularity and prominence of "complementary and alternative medicine" (CAM). This describes a broad range of health practices that historically originate outside of conventional or mainstream medicine (e.g., acupuncture, herbal remedies, naturopathy, homeopathy, and chiropractic), which position themselves in relation to mainstream medicine, but differ in their attitude to it. In spite of efforts by medical authorities to keep in check the proliferation of CAM services and products, the National Health Interview Survey from 2007 reveals about 40 percent of US residents use at least one CAM health practice, and the number of visits to providers of CAM outnumbers the visits to primary care physicians practicing mainstream medicine (Barnes, Bloom, and Nahin 2007).

While this popularity is in part explained by increased economic wealth that stimulates the consumption of "health products" (e.g., vitamins, plant extracts, etc.), it is also linked to the perception of mainstream medicine as objectifying, and sometimes also authoritative and bureaucratic. Although the motives are not entirely clear, what patients describe as a lack of bedside manner and an objectifying environment in mainstream medicine is one of the reasons for the popularity of alternative medicine (Astin 1998). As Bivins (2010, 36–7) puts it, "the rigors of biomedicine from the patients' perspective – the degree to which it was impersonal, driven by and constructed around the needs of the laboratory and technology . . ., and disease- rather than patient-focused – provoked many to accuse both

[14] We should also note that some authors who explicitly recognize that "the practice of medicine has been progressively dehumanized" insist that technologically sophisticated devices also offer the solution by freeing up time for "human-to-human bonding" (Topol 2019, 491–2).

the medical system and its practitioners of arrogance, insensitivity, and greed." Along such lines, some movements entirely reject mainstream medicine and denounce it as a part of an elitist "conspiracy against the laity" (Porter 2002, 45).

1.5 The Character of the Criticism

Taken together, the three forms of criticism are comprehensive and highlight substantial challenges: medicine is scientifically less rigorous and trustworthy than generally thought (skepticism), medical resources are improperly used to address nonmedical problems (overmedicalization), and the care received violates expectations (objectification). The criticism thus targets medicine as both a medical science and a medical practice, and it constitutes a powerful assembly of forces that will contribute to transforming medicine in the twenty-first century. At the same time, the criticism is *nuanced* in the sense that it simultaneously recognizes that medicine is facing different challenges than just a century ago. Critics are well aware that increased longevity due to advances brings to the fore a range of chronic diseases that are much more difficult to treat. Also, they are aware that medical professionals increasingly encounter individuals with composite medical and social needs (e.g., related to homelessness and substance abuse), and it would be unrealistic to expect that professionals with medically defined roles would be able to meet these needs.

The following sections further explicate the criticism and the challenges to medicine it highlights. One important step toward completing this task is to unearth the specific normative character that the different forms of criticism share. Focusing on the nature of the standards of evaluation that they deploy can assist a better understanding of the criticism but also provide clues as to how to deal with the challenges to which they point. Before we start, two notes on the choice of terms are in order.

First, a note on what "criticism" means. In this case, as well as in general, criticism aims to raise awareness of a problem and contribute to changing the state of the target, which can be some state of affairs in the world, or (e.g., historical skepticism) the stance that we take toward it. Importantly, while change can be effectuated in a number of ways (e.g., using monetary incentives, threats, manipulation), criticism aims to change things by offering reasons. For this, besides appealing to certain observed facts, it has to appeal to some *norm* that purports to provide a reason and thereby *justify* change (Kauppinen 2002). Norms specify standards that can be met or fail to be met; they prohibit and permit

courses of action, but they also implicitly structure the space of possibilities of action (Jaeggi 2018, ch. 3). Norms are linked to values, on the one hand (e.g., courage is a general value, norms define what is courageous behavior in a situation), and to reasons, on the other. A justification can be suitably demanded for why norms should be met, but in many cases they are profoundly implicit, such that it would not make sense to demand one.[15]

Second, some distinguish between "criticism" and "critique" and take the former to refer to something less elaborated and directed toward persons and the latter to be a more developed consideration upon a subject. However, this distinction is ambiguous and not used systematically in the literature. For example, in his discussion of criticism in science and philosophy, Popper (2000) consistently speaks of "criticism," even though the way he uses the term fits the definition of "critique." For this reason, we will use "criticism" in a broad sense, which includes instances of "critique."

1.5.1 *Ways to Criticize Social Practices*

Criticism can target individuals, actions, states of affairs, or, as in our case, a *social practice.*[16] Roughly, a social practice is a collective activity that involves an arrangement of norms, and it functions, as Sally Haslanger (2018, 237) puts it, "in the primary instance, to coordinate our behavior around resources." Practices are defined as "offices and positions with their rights and duties" (Rawls 1971, 55), including procedures for determining admissible and nonadmissible violations.[17] Practices can be conceived in terms of norm-conforming behavior, but it is essential that the norms and rules inherit their purpose and point from the *aim* of the practice and the good at which it is directed (MacIntyre 2007). These constitutive aims (e.g., the law aims at justice, education at developing children's abilities, medicine at health) provide criteria for evaluating the behavior of participants. The practice may require institutions to serve its aim by norm enforcement, organization, and funding, and these norms may be changed

[15] It is customary to distinguish types of norms, rules (e.g., games), prescriptions (e.g., legislator and legal norms), and directives (e.g., technical instructions) (Wright 1963).

[16] The criticism only targets the action of individuals indirectly, to the extent that these are constitutive parts of the practice.

[17] It is not clear, however, that practices can be said to be governed by rules. Drawing on Wittgenstein's work on rule-following, some have argued that rules are more or less adequate representations of aspects of practices that are prior to the rules. Rules, as Wittgenstein puts it, cannot keep participants in practices "on the rails" of the practice. Being able to comprehend what it is to follow a rule might require a prior conception of practice.

in a way that advances the aim of the practice, without transforming it into something different. Of course, the relationship between institutions and practices is more complicated. An institution is not itself structured by the aim and norms of the practice it organizes, but in terms of practice-external goods like status, money, and power (MacIntyre 2007, 194). Because institutions have a tendency to separate from the practice they sustain, the pursuit of two kinds of goods constitutes a source of potential conflict. For MacIntyre, without virtues (e.g., truthfulness, justice, courage) practices would not be able to withstand the corrupting power that institutions exert. This is problematic not only because the aims of practices are not achieved. There is much more at stake, because practices are the vehicles through which the common good and the potential of human beings are actualized.

Social practices are the building blocks of larger social structures. For example, a university education involves not only practices of research and lecturing, but also commencement ceremonies, sporting events, accreditation, etc. Many of its practices are defined by a set of rules that are prior to the behavior of the participants: a PhD student may receive a hood from a professor, but it only counts as "hooding" within the set of rules that constitutes a hooding ceremony. At the same time, the practice offers participants roles to occupy, norms to follow, and reasons for actions: the professor has a reason to wear academic regalia, because it is required when participating in the ceremony. Complex, rule-governed practices depend on coordinated intentions and behavior (e.g., ceremony), involve accountability, and explicitly include judgments of correctness and incorrectness, while simple practices consist of patterns in behavior that result from social learning and cultural schemas internalized through socialization (e.g., the exchange of gestures). These can be prelinguistic bases for rule-following, with implicit, vague, and evolving norms such that behavior in accordance with them only requires basic responsiveness, not full-blown reflective judgments.

A criticism of a social practice can take two forms, depending on the norms it appeals to. In the case of *external criticism*, the standards employed stem from outside the practice criticized and it is always a possibility that the participants of the practice may not accept them. As Karl Popper (2000, 29) puts it, external criticism "attacks a theory from without, proceeding from assumptions or presuppositions which are foreign to the theory criticized."[18] For example, when critics appeal to

[18] Popper (2000) mainly discusses forms of criticism with respect to theories, but his considerations on a more general level apply to practices too.

human rights or the Bible, as some do in their criticism of medical practices, they are engaged in a form of external criticism. Here, it is irrelevant whether or not the criticized practice shares these standards, and if participants in the relevant practice do not accept those external norms, or do not think they apply, then they will probably not be very impressed by the criticism.

By contrast, *internal criticism* proceeds from the inside, employing standards that are seen as internal to the practice criticized, even if these are not explicitly recognized by all participants. The reference points are norms of the practice, not sets of beliefs shared by the participants of the social practice. Because it appeals to norms that the practice is seen as committed to, internal criticism is often seen as an effective form of criticism: judging a practice against its own standards does not face the difficulty of having to demonstrate the legitimacy of applying an external standard. As the standards appealed to are internal to the practice, raising awareness of their violation will likely be accompanied by some degree of motivation to change.

Popper (2000, 29–30) expresses reservations that such criticism "is relatively unimportant" since it must limit itself to pointing out inconsistencies within a practice. However, because theories as well as practices are also attempts at solving a problem, they can be submitted to internal criticism, for example, for failing to offer a solution or for failing to offer one that is superior to its competitors. In this way, immanent criticism may point out serious weaknesses even if the practice is internally consistent. Internal criticism is thus not necessarily conservative, solely aiming to restore or create internal consistency between norms and aims. In some cases, the fact that some norms of the practice are not satisfied stems from the fact that they are contradictory in themselves: they cannot be or are unlikely to be fulfilled for structural reasons (Jaeggi 2018).[19] Such a contradiction can arise if a practice embodies mutually opposing aims and norms that cannot be realized without contradiction or turn against the original intentions of the practice if realized.

In addition, we may distinguish two types of internal criticism. Internal criticism may target a norm that is *applicable* to a practice, or one that is *constitutive* of it. There are of course a large number of norms internal to practices, but some of them are somehow "privileged," picked out as the ones that ought to be conformed to (Brandom 1994, 28). Some of these

[19] This is often referred to as "immanent criticism" in the literature, particularly in the tradition of critical theory. The chapter will not make this additional distinction for purposes of simplicity.

norms governing the activity are constitutive norms, in the sense that the practice would not be the same without them, and specifying actions and roles that could not exist outside of the activity in question (nurse, doctor, etc.). The internal norms of practices need not be explicit but are often a mixture of more and less conscious and explicit elements (see Brandom 1994, ch. 1).

1.5.2 The Internal Criticism of Medicine

Let us now consider the criticism of medicine described in this chapter in light of this brief sketch of different forms of criticism. First, what unites these forms of criticism is their *internal* character. They all implicitly assume that medicine's own norms and values fail to be fully realized in the current institutional settings. Instead of condemning medicine by deploying independently justified standards (e.g., faulting medicine for rising expenditures or for failing to contribute to social justice) the criticism maintains that medicine has diverted from its course; it is no longer on the path toward its aim, and is thus failing to represent the values and norms it embodies as its own.

Second, medicine is criticized as *a social practice* that comprises both medical science and clinical practice. It coordinates a community in producing and using knowledge for the benefit of health, assigning roles for a large variety of participants (patients, nurses, physicians, etc.) in a variety of settings (e.g., the lab, the hospital, the clinic), all of which is governed by norms and social meanings internalized through participation. The criticism in particular appeals to two types of internal norms. The skeptical criticism mainly refers to the violation of *epistemic norms* of systematic knowledge-seeking (such as failing to communicate negative results) that is internal to medicine qua being science. The criticism of objectification, motivated by subjective experiences in health care settings, claims that objectification violates internal *moral norms* in medicine that govern the care of patients. Finally, the criticism of overmedicalization appeals to mixed sources. In some cases, the criticism is external, maintaining that overmedicalization is reproachable because it masks the social sources of suffering or because it contributes to the increase in the number of healthy people who are seriously concerned about their health. But, in most cases, the criticism is internal: the use of medical resources to address social or existential problems is not consistent with internal norms of medicine.

Third, the criticism appeals not merely to norms that are applicable to the practice, but to *constitutive norms*, understood in the sense that their

violation is taken to undermine something that defines the practice. When O'Mahony laments the "corruption of medicine," it is conveyed that something definitive in medical research and practice has been lost. In most cases, the corruption of medical research, being implicated in overmedicalization, and the lack of compassionate care driven by patient need are taken to violate norms that not merely happen to be associated with medicine, but without which medicine turns into something else. At the same time, the criticism conveys that the *aim* associated with this practice cannot be achieved without adhering to these constitutive epistemic and moral norms.

1.6 The Use of the Criticism

Useful criticism tends to illuminate its subject, and metacriticism that systematically considers different strands of criticism can offer further contributions in this regard. We have so far been able to show that we are predominantly dealing with instances of internal criticism that appeal to constitutive norms of medicine, many of which are implicit. In general, implicit norms can be hard to identify, as we often first become conscious of their existence when they are violated. By conveying the perception of norm violations, the criticism makes important steps toward making more or less implicit norms explicit, which enables subjecting them to rational scrutiny. Moreover, we have also seen that the criticism appeals to two kind of norms. The skeptic's criticism appeals to *epistemic norms* of science, the criticism of overmedicalization appeals to norms governing medical knowledge that forbid certain uses, and the criticism of objectification appeals to *moral norms* that forbid a certain way of treating patients, even if their diseases are successfully removed. In the latter case, the criticism is informative in an additional way, because it shows that norm violation gives rise to "reactive attitudes" (e.g., indignation). Such reactive attitudes are best explained by positing the presence of implicit moral norms that are perceived to be violated.

These findings offer us a better view of the normative sources of the criticism, but they also help us comprehend that the criticism converges on more fundamental questions about (a) the aim of medicine, (b) the nature of medicine, and (c) the key concepts of health and disease, which correspond to the three levels of analysis of the normative approach that will be introduced in Chapter 2. With respect to (a), when critics like O'Mahony call on medicine to change its course and charge that it has overextended its dominion, this is based on a persuasion that medicine is currently not advancing toward its true aim. The criticisms of

overmedicalization and objectification both point in this direction, maintaining that medicine has deviated from its course.[20] Moreover, the implicit assumptions of different strands are conflicting: the charge of overmedicalization seems to assume that (i) the aim of medicine is the removal and prevention of disease, while the charge of objectification seems to assume that (ii) the aim of medicine is to enhance well-being in a wider sense. If it turns out that (i) is true, then much of the charge of objectification looks unreasonable. After all, the successful removal and prevention of disease does not necessitate eliminating the features that critics of objectification draw attention to. In contrast, if (ii) is true, then the charge of overmedicalization begins to look mysterious.

With respect to (b), the skeptical criticism of medicine as science claims that current research practices are not consistent with the (scientific) nature of medicine. But Stegenga's skeptical thesis also has implications for questions about (a). This is due to the fact that although some of the arguments could be extended to domains of medicine, his thesis focuses on one kind of therapeutic intervention, namely intervention using pharmaceuticals. It does not systematically consider other types of standard interventions (e.g., surgical interventions, interventions in the form of radiation therapy or physical therapies, nonpharmaceutical rehabilitation procedures, lifestyle interventions). Moreover, in order for a medical intervention to qualify as effective, Stegenga's framework requires that it must target the constitutive causal basis of a disease, the harms caused by the disease, or both (Stegenga 2018, 15). This means that interventions that target conditions that are not "genuine diseases" (e.g., interventions on predisease states or on inappropriately medicalized conditions) are excluded. In addition, interventions in the form of vaccination are excluded because they aim to prevent the transmission of diseases rather than treat diseases (2018, 179), while a large number of other interventions (e.g., contraception, abortion, relieving teething pain, or menstrual cramps) are excluded because they do not target the constitutive causal basis of a disease or the harms caused by it.

Anticipating the objection that his view builds on an overly narrow account of the goal of medicine, Stegenga (2018, 52–3) grants "the multifaceted goals of medicine and the plural activities of physicians," but stresses that his analysis applies to *one* goal in medicine, which is the improvement of health by intervening on disease. While this seems like a suitable reply to the objection, we may note that the consequences of the

[20] Of course, this does not imply that medicine needs to return to some earlier era in which it succeeded in realizing this aim.

skeptical thesis for an overall assessment of medicine will depend on what the overall or final aim of medicine is and on how the goal to which Stegenga's analysis applies is related to it. For instance, the consequences of accepting the skeptical conclusion with respect to an overall assessment of medicine will be very different if one sides with critics of overmedicalization (i.e., the aim of medicine is the removal and prevention of disease) or if one sides with critics of objectification (i.e., the aim of medicine is to enhance well-being in a wider sense). In fact, critics of objectification could accept the skeptical conclusion while still holding on to the view that medicine as a whole is successful and produces significant progress.

Finally, with respect to (c), the charges of overmedicalization and objectification also implicate the notions of health and disease and claim that these have been altered to fit objectives that do not align with the aim of medicine. To assess whether such a claim is justified will likely require careful explication of the concepts of health and disease in light of the question about the aim of medicine.

Overall, there is therefore support for thinking that the criticism converges on such fundamental questions that correspond to the three levels of analysis of the normative approach. However, while these assumptions offer a normative backdrop for much of the criticism, critics do not offer systematic defenses of them. But, without this, the scope and significance of the criticism are limited. To better comprehend the criticism and to assess whether it is justified, the additional step of clarifying these fundamental issues seems indispensable. At the same time, attaining clarity about these issues makes a further inquiry worthwhile for additional reasons.

First, criticism that illuminates its subject can offer clues to the solution of the problem that it points to. However, taking further steps toward a solution would be greatly facilitated by an accurate account of the nature of the problem, which requires discerning the aim of the practice criticized. Without it, it is not clear what kinds of solutions are suitable with respect to the norm violations that propel the criticism. For example, by making a connection between aim and norms, one can discern whether the purported norm violation is an expression of a *local problem* (e.g., the norms of a practice no longer promote its aim) or a *systemic problem* (e.g., the norms of the practice are inconsistent). In the former case, problems typically have internal solutions, while in the latter they might resist a resolution within the current constellation.

Second, the emergence of the criticism is in part an expression of a new uncertainty about the proper role and scope of medicine in modern

societies. Therefore, answering questions about the aim of medicine will not only help address the challenges that the criticism raises (i.e., determining the scientific nature of medicine, its proper boundaries, and the appropriate use of medical means), but it will also provide impulses to redefining medicine's role in society in the twentieth century. In this regard, consistent with the normative approach, it is important to stress that seeking to discover what the aim of medicine *is* should not be viewed as a separate undertaking from seeking to answer the question of what it *ought to be*.

Having offered reasons for why completing this additional step would be valuable, we may close by adding that the criticism also points toward how the question about the aim of medicine is to be answered. Taking seriously all three strands of criticism, one could argue that even if medicine suddenly became much more successful in curing and treating diseases (thus defeating the skeptical criticism), that would not resolve the criticisms of overmedicalization and objectification. And if the latter criticisms implicate questions about the aim of medicine, then we might start suspecting that there is more to medicine's aim than curing and preventing diseases. We will return to this issue in Chapter 6.

1.7 Conclusion

This chapter directed its focus at dominant forms of criticism, attempting to offer a better comprehension of their normative character and the challenges they convey. It was argued that the criticism is *comprehensive* (i.e., raises questions about both medical science and medical practice), mainly *internal* (i.e., relies on standards of evaluation that are assumed to be internal to medicine), and converges on a larger question about (a) the aim of medicine, (b) the nature of medicine, and (c) key concepts in medicine.

The criticism unearths challenges to medicine that require us to address basic questions on all of these three levels. Directing attention to these basic issues will not only help clarify to what extent the criticism is justified, but also assist an informed deliberation about the future of medicine. The main aim of the following chapters is to undertake this task. While Chapters 4 and 6 are chiefly dedicated to (a) and (c), Chapter 3 starts by addressing (b), and thus the question about the (scientific) nature of medicine. But, before that, Chapter 2 presents a particular, *normative* approach to philosophy of medicine that guides the inquiry in this book. It will be shown how this approach and the *three levels of analysis* it emphasizes can contribute to addressing the current challenges.