

Changing One's Mind: Philosophy, Religion and Science

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Changing one's mind: The limits of rationality?

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Abstract: In this study, I juxtapose the views of Edna Ullmann-Margalit and Menachem Fisch on radical changes of mind. I note in particular the common aspects of their proposal that typically, radical change is not, indeed, cannot be justified by reasons. Their responses to and arguments for this threat to rationality are critically examined. Hili Razinsky's analysis of ambivalence is shown to contribute to the understanding of change by providing a broader perspective on the rationality of belief. Her work thus provides a promising alternative to the above positions and the impasse they confront.

Keywords: Rationality, change of mind, ambivalence, big decisions, theory change

1 Radical change of mind

People sometimes change their deepest convictions or, more extremely, their way of life. How do these dramatic changes occur? In contrast to everyday, routine changes of mind that can be explained by *reasons*, off-scale changes of mind tend to resist rational explanation and therefore confront us with the limits of rationality. This, at least, is how Menachem Fisch and Edna Ullmann-Margalit (independently) perceive them and consequently the explanatory challenge both of them seek to respond to.¹ Their context is slightly different: Fisch applies his analysis (*inter alia*) to scientific change – a change that may affect a community rather than an individual – whereas Ullmann-Margalit (in the studies I discuss here) is mainly concerned with personal transformation.² Moreover, while Ullmann-Margalit focuses on the *choice* between radically different alternatives, Fisch is more concerned with the moment at which one's confidence in one's own normative system begins to give way to doubt. And yet, what is common to their views merits consideration and will be my subject in what follows. Toward the end of this discussion, I will point to Hili Razinsky's important work on ambivalence (Razinsky's *Ambivalence: A philosophical Exploration*) as providing a different perspective on the problem of rationality raised by the phenomenon of radical change of mind.³

1 The texts I use here are Fisch, *Creativity Undecided: Toward a History and Philosophy of Scientific Agency*, Ullman-Margalit and Morgenbesser, "Picking and Choosing." Ullmann-Margalit, "Big Decisions: Opting, Converting, Drifting," and Ullmann-Margalit, *Normal Rationality*. Both of Ullmann-Margalit's studies are reprinted in her *Normal Rationality*. Page numbers in the present study refer to that book. As far as I can tell, Fisch was unaware of Ullman Margalit's work; his *Creativity Undecided* has no references to her writings.

2 Scientific change is the focus of Fisch, *Creativity Undecided*. In Fisch and Benbaji, *The View from Within*, the focus is change of fundamental norms in general. In her "Big Decisions: Opting, Converting, Drifting" (68–9), Ullmann-Margalit explicitly limits her discussion to the personal.

3 Razinsky, *Ambivalence: A philosophical Exploration* is again independent; it does not cite the above writings, nor is it cited by them.

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As all these philosophers engage in critical examination of action and belief, let me begin with a brief remark on two senses of critique that differ in their philosophical aims. In its prevalent philosophical sense, critique, especially since Kant, is closely linked to the notion of borderline or limit; the limits of reason for Kant, the limits of language for Wittgenstein, and so on. In this form of critique, the borders are fixed and their transgression – impossible. Beyond them lies the void of unreason and meaninglessness. We are often unaware of these limits. We are susceptible to the illusion that a thought of ours had content and that an assertion was meaningful, whereas in fact they were empty. Identifying the limits of thought or language and becoming mindful of them is, according to upholders of this sort of critique, a philosophical project that rids us from such illusions and their consequences. There is another form of critique, however, that is also aiming at awareness, but in contrast to the notion of unsurpassable boundaries, the idea here is that the borders of reason, sense, and morality are contingent and dynamic. Once we become aware of their contingency, we are able to liberate ourselves from their shackles. According to this form of critique, awareness is a vehicle of change and renovation. Michel Foucault summarizes this vision as follows:

This critique [...] will not deduce from the form of what we are what it is impossible for us to do and to know; but it will separate out, from the contingency that has made us what we are, the possibility of no longer being, doing, or thinking what we are, do, or think.⁴

In the works that occupy us here, we find both forms of critique. They point to the limits of rationality and to the illusion of rational thought where it does not exist, but they also encourage us to extend our conception of rationality beyond its common confines.

In their classic “Picking and Choosing,” Ullman-Margalit and Morgenbesser examine different sorts of decision, from the most trivial ones – taking a can of pickles off the shelf in the supermarket – to the most significant decisions of our lives, marriage, religious conversion, and so on. They introduce the terms “picking” and “choosing” (which have by now become standard) to differentiate these sorts of decision. Surprisingly, the study defends the rationality of acts of picking that in all likelihood cannot be backed by reasons, while denying rationality to some momentous choices. The rationality of picking is argued for in three different cases. The lack of reasons for picking one can of pickles rather than another is due to their similarity; we would be neither better nor worse off had we picked another can than the one we ended up with. But we are sometimes confronted with indistinguishability without genuine similarity – we are invited to open one of two seemingly identical doors behind one of which lies a treasure we would get if we opened that door. Although the difference between the outcomes of our decision is highly significant, we are rational to pick one door at random. Finally, there are decisions, booking a hotel, say, that could be made on the basis of reasons, but we would still be rational (according to Ullmann-Margalit and Morgenbesser) if, to save time and effort, we avoid a detailed comparison between alternatives and just pick a hotel.

The rational construal of picking is certainly illuminating, but the crux of the study, and its importance in my view, lies in the claim (made only briefly toward its end) that our most significant decisions are not always reached by rational deliberation; they may well be instances of picking rather than choosing. “And it may just be that, whether to our delight or to our dismay, it is picking rather than choosing that underlies the very core of our being what we are.”⁵ Thus, despite the huge difference between the petty and the significant, the polar ends of the spectrum of decisions come together. Moreover, they come together on the borders of rational thought.

Thirty years later Ullmann-Margalit arrived at the same conclusion when revisiting the subject, but this time focusing on “Big Decisions.”⁶ Here she distinguishes between varieties of such decisions (“Opting,” “Converting,” and “Drifting”) and elaborates the reasons for deeming some of them

⁴ Foucault, “What Is Enlightenment?” 46.

⁵ Ullman-Margalit and Morgenbesser, “Picking and Choosing,” 21.

⁶ Ullmann-Margalit, “Big Decisions: Opting, Converting, Drifting.”

unjustifiable.⁷ I will only discuss the category of *opting* and two of her arguments for their imperviousness to reasons. Cases of opting are defined by Ullmann-Margalit as transformative, irreversible, made in full awareness, and (most importantly for what follows) they are such that “the choice not made casts a lingering shadow.”⁸ The two arguments are the following: the first is a kind of paradox: if the change in question is indeed transformative, the discontinuity in the agent’s system of value and belief raises the difficulty that we may not be justified in ascribing the earlier and later systems to the same person. Consequently, it is no longer clear whose values, beliefs, and reasons are responsible for the change. Should we justify the decision by the reasons of the earlier agent or the transformed one? Neither of these options seems attractive.

The question I am raising is whether it is possible to assess the rationality of his choice, given that this choice straddles two discontinuous personalities with two different rationality bases [...] In the opting situation it is not the future states of the world or their probabilities that one does not know but rather one’s future personality. Opting is a gamble on one’s future self as a transformed assessor of results and probabilities.⁹

The second argument is based on the logic of deductive reasoning. Our fundamental beliefs and norms, like the axioms of a deductive system, cannot be justified within this system; by their foundational nature, they are unjustifiable.

If reasons are forever from within a framework [...] the choice of the framework itself cannot be justified by appeal to reasons. [...] You cannot justify a deduction because there is no way to do it non-deductively. The choice to be moral cannot be justified by appeal to moral reasons. These fundamental choices, then, cannot be choices [...] At bottom, we make our most fundamental choices of the canons of morality, logic and rationality in total freedom and without appeal to reasons.¹⁰

This is precisely the problem posed by Fisch at the beginning of *Creativity Undecided*.

How can a person subject her scientific standards to rational appraisal if it is by means of those very standards that she rationally appraises? How can a constitutive framework be indicted by the very principles of rational reckoning to which it gives rise?¹¹

Although it may well be that Fisch is more deeply concerned with the possibility of radical change of norms than the critique of factual beliefs, *Creativity Undecided* focuses on science and scientific method, and, therefore, devotes a great deal of attention to factual assumptions. In seeking to understand scientific change, Fisch contends that we must do justice to two different conceptions of science and its methodology. On the one hand (with Peirce, Popper, and numerous other philosophers of science), Fisch is committed to the desiderata of testability and critique as the criteria for acceptance or rejection of scientific hypotheses. On the other, he acknowledges (with philosophers such as Hanson, Kuhn, and Feyerabend) the framework dependence of critique. Kuhn’s argument was that it is only within a paradigm that the scientific community shares, a paradigm that lays down the basic assumptions and norms of the relevant science, that science can flourish and its problems (riddles, in Kuhn’s terminology) could be solved. These two ideas clash when one aims at an explanation of radical change – paradigm shift or revolution. For in the lack of a more fundamental level of norms and assumptions than those constituting the paradigm in use, there seems to be no rational way of criticizing them. How then can one question, or give up, a prevailing paradigm and come to embrace a different one? Fisch sums it up as follows

⁷ One could add another characteristic of such decisions due to William James: Such big decisions are forced on us in the sense that there is no way of avoiding the decision; not taking the decision (to marry, to save the drowning person, and to convert to Buddhism) is taking an equally momentous decision (James, “The Will to Believe”).

⁸ Ullmann-Margalit, *Normal Rationality*, 69.

⁹ *Ibid.*, 76.

¹⁰ *Ibid.*, 79.

¹¹ Fisch, *Creativity Undecided*, 2.

“The normative frameworks that make reflective endorsement possible cannot themselves be endorsed or rejected reflectively.”¹² He elaborates:

The relatively stable, normatively privileged core-set of commitments [...] comes at the price of its own exemption from, or immunity to normative scrutiny and reasoning. Instead of being the prize products of reasoned reflective endorsement or strong evaluation, our deepest and most definitive commitments seem necessarily required to be firmly [...] in place for the commencement of such processes to even be possible. Because the hypergoods and volitional necessities form the basis for one's normative reasoning, they cannot be *given* reasons.¹³

Where can we go from here? One option is the denial of change. This is how Fisch continues the previous quote (only an interim conclusion; not his last word): “And since they are not the *product* of normative reasoning, and, therefore do not derive from more basic commitments, one is incapable of thinking or acting against them.”¹⁴ But obviously, this negative take on the possibility of change flies in the face of reality. From personal transformation to scientific paradigm shifts, radical change, even if relatively rare, exists. The other option is more realistic: Radical change occurs, but it is unguided by reason. Indeed, Kuhn construes paradigm shifts as religious conversions, implying that while they may have *causes*, they are not based on reasons. In the same vein, Ullmann-Margalit, as we saw, maintains that transformative choices are made in “total freedom and without appeal to reasons.”¹⁵

Fisch is unhappy with these options, partly, I presume, because he realizes that, eventually, people are capable of comparing the new framework with the older one and that this comparison does involve rational assessment of the assumptions and norms underlying both frameworks. The problem as he sees it is to account for the *first* step out of the system one is committed to and the solution he offers is that “the initial source of destabilization must be external.”¹⁶ The solution involves two components: an external trigger and (as a result) a process of destabilization that leads to ambivalence toward the foundations of the system that up to that moment had been firmly in place. In other words, Fisch continues to deny radical change originating within the framework but allows for an external intervention to activate a mental process that at the end of the day resumes the rational stance. The (sometimes prolonged) state of ambivalence between the activation and the desired end point is crucial, according to Fisch, for it is during this stage that the grip of the older frameworks is relaxed, making room for the possibility of its critique or replacement. It is not clear whether ambivalence is considered by Fisch to be a cognitive or purely emotive state, but this is perhaps a virtue rather than a defect. It stands to reason that radical change involves an inseparable mixture of cognitive and noncognitive components.

2 Possible responses to the treat of irrationality

Let me now turn to some of the above claims and see how they apply to cases of revolution and transformation. I will address two issues, the necessity of external input urged by Fisch and the argument (put forward by both Fisch and Ullmann-Margalit) that the logic of deductive reasoning precludes rational critique of our basic beliefs and norms.

¹² Ibid., 84.

¹³ Ibid., 83.

¹⁴ Ibid., 83.

¹⁵ Ullmann-Margalit, *Normal Rationality*, 79.

¹⁶ Fisch, *Creativity Undecided*, 142.

2.1 External input

I agree that external triggers can be instrumental to change and that, in general, such triggers need not amount to arguments.¹⁷ I tend to disagree, however, that external intervention is a necessary condition of change. (Needless to say, this is not to deny the fruitfulness of dialogue and controversy in general.) Consider the starting point of one of the greatest scientific revolutions ever – Einstein's launching his general theory of relativity. There are different ways of telling the story, but neither of them involves an external trigger. Einstein's own account involves the thought experiment he would later deem "the most fortunate thought of my life."¹⁸ It started with an image, a man falling freely in a gravitational field, followed by a question: What does it feel like? Einstein's answer was that it does not feel like "falling" or being "pulled"; the man does not feel the force of gravity. If so, Einstein continued, free fall is analogous to inertial movement, which is known to be imperceptible, or, to put it differently, there must be some close connection between gravity and inertia. One can, however, add another dimension to the story, anchoring it in a puzzle that has been lurking in the foundations of classical mechanics from day one. When formulating (what we call) classical mechanics, Newton was aware of the fact that his concept of mass actually comprises two distinct concepts, inertial mass and gravitational mass. The former is an intrinsic property representing a body's reaction to a change in the magnitude or direction of its velocity, and the latter is a relational property responsible for the attractive force between any two bodies. Luckily, Newton thought, these distinct concepts of mass have the same (up to a constant) mathematical magnitude and can therefore be mostly treated as identical (as, for example, when they are canceled out on two sides of an equation). Newton was puzzled but left it at that, a coincidence, a contingent fact, perhaps a manifestation of the grace of God. The puzzle was there, right in the midst of the dominant paradigm, but it had to wait some 250 years before Einstein took it seriously and used it to overturn our conception of space and time. As far as I know, there is no historical record that suggests an "external" input stimulating Einstein to ponder that puzzle. We know, however, that Einstein was generally wary of contingent facts. If gravitational and inertial mass are mathematically related, he suspected, they must also be physically related. Was the puzzle responsible for the appearance of the image or was the puzzle dormant until the image suddenly appeared? We don't know the answer, but either way, Einstein's groundbreaking revolution does not seem to fit the external trigger theory.

The discovery of non-Euclidean geometries provides a similar example. The status of Euclid's fifth postulate, the parallel postulate, seemed dubitable to Euclid and continued to worry mathematicians through the generations. Is it really an independent assumption – an axiom – or is it a theorem (i.e., provable from the other axioms). Despite the enormous prestige of Euclidean geometry, the haunting doubt regarding a possible flaw in its foundations persisted. The discovery of several non-Euclidean geometries by different mathematicians (around the same time) reflects their efforts to solve the ancient problem. Even more consciously than in the case of Einstein, the revolution in geometry was a response to a long-standing doubt rather than an unexpected intervention. I would consider this internal rather than external critique.¹⁹

¹⁷ A teenager can be prompted to abandon religious faith when witnessing a gross violation of a religious commandment by a person she respects (her mother secretly eating on a holy fast day, say). Clearly, such violation (and insincerity) does not constitute an argument, but it may trigger doubt, leading to a train of thought that could terminate in a decision grounded in reasons. (Note that the entanglement of the emotional and the cognitive is clearly manifest here.)

¹⁸ Einstein, *Collected Papers*.

¹⁹ I am not claiming that critique from within is the rule, only that it is possible. Darwin's encounter with Malthus, for example, does support Fisch's theory.

2.2 The argument from deductive logic

I am in great sympathy with Ullmann-Margalit's contention that "big decisions," the ones that (we would think) require the utmost effort of justification, are often taken spontaneously, without sufficient reasoning or without reasons altogether. It is also well-known that we sometimes give "small" decisions more attention than they deserve. Does deliberation, then, stand in inverse relation to the weight of the decision? Perhaps psychologist Yair Ben-Menahem has it right when he says (in a talk): "The amount of rational deliberation is independent of the magnitude and weight of the decision." Be this as it may, I find Ullmann-Margalit's observations convincing. Where I find myself in disagreement with her and with Fisch is their shared argument that it not only happens that we do not subject fundamental beliefs to reasoning and critique, but that we *cannot* do so; that necessarily, as a matter of logic, the basis of our belief system is unquestionable and irrevocable by reason.

The argument is based on the assumption that our system of beliefs constitutes a deductive system. In systems of this kind, there is indeed a set of axioms from which theorems are derived by inference rules. To assess the truth of an assertion, we check whether it is a theorem or whether it is entailed by the axioms. The axioms themselves, though, cannot be proved or disproved within the system.²⁰ According to Fisch and Ullmann-Margalit, our deepest norms and beliefs function as axioms in deductive systems and their immunity to rational evaluation therefore follows. It seems to me, however, that this picture is too schematic by far. The very term "system" is misleading. There is no organized structure of our beliefs/norms, let alone a deductive structure. There is not even a method of individuating beliefs, or a method for making all of them explicit. And we often delude ourselves about the depth of our commitments, taking particular ones to be fundamental and then realizing their superficiality. In short, a more realistic picture of our "web of belief" (to use Quine's term) would sever the analogy with deductive logic, thereby undermining the immunity argument.

Scientific method offers another perspective on the problem. Here there are no safeguarded axioms.²¹ A theory is tested by its consequences and empirical implications; and when it fails these tests systematically, it is amended or replaced. It is an inductive method, and fallibilism is inherent to it. (Individual scientists are sometimes dogmatic and cling to a theory despite the evidence against it, but this is a violation of the method, not its implementation.) Even Kuhn, who tolerates conservatism and dogmatism more than most philosophers of science, had to admit that ultimately, paradigms are defeated by "anomalies," unsolved problems, and clashes with experience. The inductive method of science (like democracy) has many faults, but we haven't found a better one yet. Criticizing and changing our norms, I suggest, should be understood along the lines of the dynamic of change and critique in science rather than by comparison with the rigidity of deductive systems. We become aware of problems in our set of norms when we discover that they lead to unforeseen disagreeable results. Granted, considering a result disagreeable is itself a normative judgment, but there is no reason why it should be impossible to make this normative judgment rationally and "from within."²² The abundant examples of disillusionment with ideologies like patriotism, communism, life on a kibbutz, and so on clearly illustrate this process. In general, such a disappointment does not start with people questioning the foundations of their cherished

²⁰ There are conditions the system must satisfy, such as the consistency of the axioms, a tricky subject which I set aside along with the (no less tricky) difference between truth and provability. It is also inaccurate to say the axioms can never be disproved, for if we derive a contradiction, or a patently false conclusion, we will be led to reconsider the axioms. For the sake of the argument, however, I grant the irrefutability of the axioms in this section, returning to it later.

²¹ Scientists and mathematicians (Hilbert comes to mind) sometimes give a theory an axiomatic form, but the aim here is to make the structure of an existing theory transparent. It is not meant to replace the confirmation of the theory, which remains an empirical, inductive endeavor. Refutation of the theory casts doubt on its axioms.

²² Consider a person who enjoys eating meat and has no scruples about it learning one day that the cost, in environmental terms, of raising cattle is huge in comparison with other forms of protein. Couldn't this new information induce this person to become vegetarian? And would it not be a rational move? If this is not a big enough transformation, one can imagine, further, that the said person was raised in a religion that sanctions, or demands, animal sacrifices. It could then happen that, as a result of the previous transition, this person now decides to abandon the carnivorous religion. And here again, it would not be irrational to do so.

ideology; they only question these foundations once they realize where they have led to. Even if we did manage (*per impossible*) to axiomatize our entire web of belief, giving it a deductive structure, we could still come to doubt the axioms in the light of their implications.²³ On this account of radical change, the alleged threat to rationality disappears.

3 Ambivalence

We have seen that Fisch ascribes great importance to the stage of ambivalence. This is a crucial component of his theory, and one of its merits. In her *Ambivalence: A Philosophical Exploration*, Hili Razinsky places ambivalence right at the center of rational belief. No external intervention is required to make us ambivalent because ambivalence is an inbuilt feature of our web of belief. “Ordinary lives are pervaded by ambivalence of belief, in which we doubt what we believe and doubt our doubts.”²⁴ Harboring different attitudes, being drawn toward different objectives and different ways of life is not a weakness or pathology to be treated on the psychiatrist’s sofa; it is a normal, indeed desirable, mode of being. Moreover, ambivalence, according to Razinsky, is inherent to rationality, not its violation.

Examples of ambivalence permeate our emotional life but can be found in scientific practice too. Consider a scientist who puts forward a hypothesis. She believes it is true but knows it might be false. Faithful to the Popperian method, she seriously attempts to refute it. Refutation would attest to the testability and boldness of the hypothesis and to the credibility of the scientist. But wouldn’t she be much happier if it were confirmed? Well, suppose we look at the same scientist from a Kuhnian perspective. She acknowledges that she works within a paradigm and her hypothesis can only be tested relative to this framework. Nevertheless, is she not tempted to see her hypothesis as transcending the boundaries of the paradigm, as true of the world “out there”? More generally, scientists and writers are typically confident of their positions, but, as the familiar caveat about the author’s responsibility for mistakes indicates, this confidence has its limits. Such tensions between a person’s beliefs and attitudes are inevitable, according to Razinsky; they do not make us irrational. Recall that Ullmann-Margalit characterized opting as involving “the lingering shadow” cast by the alternative that had not been chosen.²⁵ She does not speak explicitly of ambivalence, but the shadow metaphor conveys it gracefully. Razinsky, however, is explicit. Her acknowledgment of ambivalence extends the scope of rationality beyond its traditional limits. It is not a trivial semantic maneuver but a philosophical insight that Nietzsche, James, and Sartre would approve of.

The examples cited above support this conception of built-in ambivalence; ambivalence not only in a single individual’s mind but in the foundations of the discipline, so to speak. Ever since Euclid, mathematicians were wavering on the question of whether the parallel axiom was indeed an independent axiom. It was this wavering, this indecisiveness, that eventually gave birth to non-Euclidean geometry. Such was also the puzzle about the relation between Newton’s twin concepts of mass. Even though it appears that no one (except Newton) had given it serious consideration before Einstein, the problem was there, at the heart of theoretical physics, calling for attention.

Razinsky’s study of ambivalence gives us a clue to the understanding of radical change in both science and everyday life. It implies that the origins of change can sometimes be found in ambivalence, in the tension between doubt and belief, in cognitive and emotional alternatives that may have coexisted for a while. It is a partial explanation that fits some cases better than others; but where it fits, it does not involve discontinuity of the self or random interventions from without. Above all, it does not require trespassing the borders of rationality.

²³ Recall Goodman’s argument that deductive logic is not as different from inductive logic as one usually assumes (Goodman, *Fact, Fiction, and Forecast*, chapter III).

²⁴ Razinsky, *Ambivalence: a Philosophical Exploration*, 168.

²⁵ Ullmann-Margalit, *Normal Rationality*, 69.

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