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Philip K. Dick's Decohering and Recohering Worlds: The Cases of *Ubik* and *The Man in the High Castle*

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Philip K. Dick's novels *Ubik* and *The Man in the High Castle* explore the idea of the multiplicity of realities, which can be understood better if interpreted from a cosmological point of view. The scientific principles of decoherence, as formulated by H. Dieter Zeh and Hugh Everett III, shed light on the nature of these fictional worlds, their creation and dissolution and their perception by both the protagonists and the reader. Ontological puzzles of the quantum world, based on the rejection of the special status of an observer in physical reality and fractal branching of the universe, offer insights into the mechanisms at work in these two novels. Decoherence may be the key to understanding the disintegrating borders between realities in both novels, which are manifested as worlds in superposition. However, the rules of this scientific principle are radically challenged by the emergence of what could be termed the agents of re-coherence. These agents reveal the existence of alternate realities in the novels, as well as the process of the violation of the decoherence principle. Not only are these occurrences interesting from both a scientific and artistic point of view, they also reveal the realities in the novels as being far more coherent than they seem on the surface and interpretable as literary parallels to thought experiments conceived as possible explanations of the quantum world theory.

Keywords: Philip K. Dick; *Ubik*; *The Man in the High Castle*; decoherence; recoherence; science fiction; multiverse

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La falta de coherencia y su recuperación en los mundos Philip K. Dick: Los casos de *Ubik* y *The Man in the High Castle*

Las novelas *Ubik* y *The Man in the High Castle*, de Philip K. Dick, exploran la idea de la multiplicidad de las realidades, que pueden entenderse mejor si se interpretan desde un punto de vista cosmológico. Los principios científicos de decoherencia, tal como los formularon H. Dieter Zeh y Hugh Everett III, arrojan luz sobre la naturaleza de tales mundos ficticios, su creación y disolución y su percepción, tanto por los protagonistas como por el lector. Los rompecabezas ontológicos del mundo cuántico, basados en el rechazo del estatus especial de un observador en la realidad física y del ramaje fractal del universo, ayudan a percibir los mecanismos en funcionamiento en ambas novelas. La decoherencia puede ser la clave para comprender las fronteras en proceso de desintegración entre las realidades de las dos novelas, que se manifiestan como mundos en superposición. Sin embargo, las reglas de este principio científico son puestas radicalmente en duda por la eclosión de lo que podría llamarse los agentes de la recoherencia. Tales agentes revelan la existencia de realidades alternativas en las novelas, así como el proceso de la violación del principio de decoherencia. Estas manifestaciones no solo resultan de interés tanto desde un punto de vista científico como artístico, sino que asimismo revelan las realidades en las novelas como mucho más coherentes de lo que aparentan superficialmente y son interpretables como paralelos literarios a los experimentos mentales concebidos como posibles explicaciones de la teoría cuántica del mundo.

Palabras clave: Philip K. Dick; *Ubik*; *The Man in the High Castle*; decoherencia; recoherencia; ciencia ficción; multiverso

I. INTRODUCTION

The reader is willing to accept the fictional worlds as possible and believable if they are based on a coherent set of rules that may differ from those in force in the objective reality (i.e., the reality perceived by the reader), but are organized and functioning in a way that incites in the reader the desire to suppress realism for enjoyment's sake, or as Coleridge put it, to suspend one's disbelief (Roberts 2014, 208). The world of fiction could be regarded as a form of metaphysically augmented reality: "In art, the classic metaphysical questions—Where do we come from? Where are we going?—have a clear, concrete meaning, and are not at all unanswerable" (Kundera 2007, 4). Naturally, as a novelist, Kundera places literature at the center of his philosophical thought.

On the most abstract level, in addition to the shifts occurring in the domains of perception, the formation of belief and related issues traditionally belonging to epistemology and to the philosophy of mind, the reader may deal with a *bona fide* ontological shift. This topic has been arguably downplayed in both philosophy and literary theory until recently for many reasons, the main among them perhaps being a lack of appreciation of the various strands of evidence pointing to the necessity of expanded ontology—the multiverse—in both microscopic (quantum-physical) and macroscopic (cosmological) domains.¹

In a manner similar to the way rules and principles operate in the existing world, the creators of fictional realities need to build a consistent and logical set of rules to make their worlds believable, no matter how fictional and different from the objective world they may be. To achieve this in science fiction, writers apply what Darko Suvin (1979, 3-4) termed "cognitive estrangement." Science fiction, Suvin states, shares "the omnitemporal horizons of naturalistic literature, ranging through all possible times," so in addition to "cognitively plausible futures," the present and the past can also be seen "from an estranged point of view" since any historical event or flow can be thought of as only one of an infinite array of possibilities (20-21). Additionally, Suvin points out that science fiction "is distinguished by the narrative dominance or hegemony of a fictional 'novum' (novelty, innovation) validated by cognitive logic" (63). Istvan Csicsery-Ronay Jr. claims that this notion of a "hegemonic" novum is suitable for "narratively simple fictions" with "relatively simple narrative arcs" and notes that after "a certain level of complexity" is crossed "it becomes difficult to discern the exact novum premise" (Csicsery-Ronay Jr. 2011, 61-62).

Philip K. Dick's works can be considered to be what Csicsery-Ronay Jr. calls science fiction with "complex, ambiguous and multiple" novums (62). Christopher Palmer

¹ Reviews of the relevant developments can be found in Carr (2007), Wallace (2012) and Kragh and Longair (2019). The increased diversity of critical approaches in the last several decades (e.g., postfeminist criticism, eco-criticism, etc.) parallels the widening of our horizons and the introduction of new perspectives into our scientific understanding of nature, evolution and society. This is nothing new; similar processes unfolded in the course of the early decades of the twentieth century, as well as earlier in the so-called Scientific Revolution in the seventeenth century.

calls Dick's *oeuvre* a megatext (within the wider megatext of science fiction) whose coherence is "sometimes hard to discern" but within which "any single work by Dick can be set" (2003, vii, 44). In this vein, in Dick's work the complexity of novums creates a mixture of alternate realities where the protagonists and the reader alike often get hopelessly lost. However, the reader's personal experience of reading a Dick novel has "a cognitive aspect which can be schematized," as noted by Palmer: readers notice numerous differences from their own world, which make them see their own world as different from what they thought it was, and then they notice that the world of the story is "different from itself" and is "split into opposing, competing units" (Palmer 2003, 25). These differences and deviations may not necessarily be as remote from reality as they seem; indeed, some of them can be viewed as manifestations of occurrences for which explanations can be found in and supported by scientific theories.

At this juncture it seems justified to talk about an author's *fictional multiverse* through a complete analogy with the usage of the term in the physical sciences, for instance in physical cosmology. There, the term "multiverse" is used to denote the all-inclusive set of cosmological domains ("universes"), which is characterized by a high level of symmetry and the realization of multiple, or even all, physical possibilities. At some very high level—the level of the multiverse itself—there is an underlying unity of most fundamental laws that stem from the general and *necessary* regularities and symmetries underlying any fundamental law of nature; at lower levels, however—at the level of an individual cosmological domain, a universe or even *the* universe—there is simply (apparent) chaos. Even if inhabited by observers like ourselves, the domain apparently looks governed by arbitrary, erratic, random rules of unclear origin: what emerges cannot fail but look like the Moorcockian "law of chaos" which reflects "the tension of opposites in Moorcock's multiversal balance" (Gardiner 2015, 1).

Some of the twists and turns encountered in Dick's fiction, particularly in works such as *Eye in the Sky* (1957), *The Three Stigmata of Palmer Eldritch* (1964), *Ubik* (1969) and *A Maze of Death* (1970) are not necessarily *prohibited* by the physical laws of our reality.² And yet they seem to be strange and unconventional enough that we might be tempted to treat them as pure fantasy. Upon deeper reflection, however, we notice that the keyword here is "unconventional." In a sense, Dick implores us to perceive the empirical world as being governed by convention (like the world of mathematics), which can be undermined only by deeper—let us say gnostic³—insight.

The world-building mechanisms in Dick's science fiction are deeply grounded in theological eclecticism and autobiographical elements in the form of visions, dreams, voices, inexplicable insights into other worlds and multiple realities. Dick's theories

² Even presuming that these physical laws are accurately and unambiguously known, which is controversial at the very least. We shall return to this point below.

³ Please see Dick's essay "Cosmogony and Cosmology" (1978), *Valis* (1981) and *The Exegesis of Philip K. Dick* (2011), as well as Lorenzo DiTommaso's paper on gnosticism and dualism in Dick's early fiction (DiTommaso 2001).

of the perception of reality, explained in his essays⁴ from the 1960s and 1970s, and later more deeply explored in *Valis* (1981) and his notoriously fuzzy and occasionally incoherent *Exegesis* (2011), are grounded in the belief that every individual accesses reality through their own individual perception, that the true nature of reality is not known or manifested to any conscious being and that time and space are only constructs or mechanisms perceived by living organisms. The protagonists in Dick's novels see orthogonal time,⁵ which is the true time with true reality and for true, absolute reality "to reveal itself, our categories of space-time experiences, our basic matrix through which we encounter the universe, must break down and then utterly collapse" (Dick [1976] 1995, 218). As Dick explained:

In my novel *Ubik* I present a motion along a retrograde entropic axis, in terms of Platonic forms rather than any decay or reversion we normally conceive. Perhaps the normal forward motion along this axis, away from entropy, accruing rather than divesting, is identical with the axis line that I characterize as lateral, which is to say, in orthogonal rather than linear time. If this is so, the novel *Ubik* inadvertently contains what could be called a scientific rather than a philosophical idea. But here I am only guessing. Still, the fiction writer may have written more than he [*sic*] consciously knew. (Dick [1977] 1995, 243-44)

Inasmuch as they are as interesting and fascinating and equally *phildickian*⁶ as his fictional creations, Dick's (auto)biographical elements and his philosophical and theological explorations of the fabric of reality fail to fully explain the nature of his fictional multiverses in a coherent and convincing, not to mention scientific, way. However, Dick was right in his claim that writers may write more than they know, because there are rules of physics that are in force, or deemed to be in force, within the objective reality that can be used to explore its deeper *relations* with their fictional worlds and thus, perhaps, point to the latter possible *reality* and *actuality*.

Being a literature of world-building, it is unsurprising that science fiction is often linked with "a branch of philosophy dealing with 'possible worlds'" (Hills 2009, 433).

⁴ "Drugs, Hallucinations, and the Quest for Reality" (1964), "Schizophrenia & *The Book of Changes*" (1965), "Man, Android, and Machine" (1976), "If You Find This World Bad, You Should See Some of the Others" (1977), "How to Build a Universe that Doesn't Fall Apart Two Days Later" (1978) and "Cosmogony and Cosmology" (1978).

⁵ According to Dick, orthogonal time is "true time," unlike the lateral time of "our experience or perception or construct of ontological matrix" in which changes occur, and from which "we get a totally wrong idea of the sequence of events, of causality, of what is past and what is future, where the universe is going" (Dick [1976] 1995, 215).

⁶ According to Jason P. Vest, the terms "Dickian" and "Phildickian" are used to describe "a fragmentary fictional world of uncertain identities, heartless bureaucracy, unexplainable occurrences, barren landscapes, and mordant wit" (Vest 2009, 1). According to Palmer, a novel is "Dickian" if marked by "recurring items of content and situation," such as characters, institutions, items of technology, tropes, styles of names (Palmer 2003, 23; 46). While we accept these construals, we would add that they can be legitimately generalized to include further ontological games and inversions, including those that find parallels in radical cosmological discourses.

There are three views of possible worlds: modal realism, moderate realism and anti-realist. While the moderate realism approach does not see “the things that might have been” as “literally there in a space causally disconnected from our world” and the anti-realist view refuses “any kind of actuality” to possible worlds, the modal realism approach sees all modal possibilities as “equally realized in some logical space where they possess a physical existence” (Ronen 1994, 21-23). In philosophical accounts of the multiverse, for example in those of Lewis, whose work is linked to modal realism, “ours is one of many worlds” and Lewis uses the word *actual* “to mean the same as ‘this-worldly’” (1986, 92), the important distinction being made between reality and actuality: if the multiverse is real, then all its branches or universes are also real in the deep ontological sense. However, only the branch containing us as observers is actual—from our personal or collective standpoint. Actuality is, therefore, an indexical property that is dependent on our location within the multiverse.⁷

By relying on the belief that every fictional world outlines a possible world,⁸ Paolo Bertetti (2017) concludes that science fiction worlds belong to naturally possible worlds that are physically possible. Bertetti crosses the parameters of structural difference (or not) from the actual world and the correspondence (or not) to its physical and natural laws in order to conclude that fantastic narratives represent structurally different worlds, and in case of science fiction the difference does not involve structural difference in terms of physical laws (52-53). As pointed out by Hills, the application of modal logic to science fiction alternate histories and stories “can illuminate its use of a novum and its critical decentring, and creatively questioning stance in relation to the ‘actual’ world” (2009, 440). As Hills continues to explain, science fiction uses counterfactuals to “destabilize ontological perspectives and compel readers to see the ‘real’ historical world in different, perhaps more critical ways” (437).

The principle of decoherence, if applied to the analysis of alternate realities in Dick’s novels *Ubik* and *The Man in the High Castle*, may represent a key to understanding the mechanisms underlying the creation, existence, interconnectedness and disintegration of the seemingly impenetrable boundaries between these realities. Decoherence, as formulated by H. Dieter Zeh and Hugh Everett III, offers solutions to the perennial ontological puzzles of the quantum world that are characterized by both rejecting the special status of an observer in physical reality and by the perpetual, fractal branching of the state of the universe (Everett III 1957; Zeh 1970).

As observed by Zeh, the cat in Schrödinger’s thought experiment is both dead and alive due to the oscillation of the wave function of the dead and the living cat being

⁷ Lewis’s multiverse is just one of many such schemes which arose in the last half century or so in both sciences and philosophy; it is different from the multiverses which emerge in the works of physical cosmologists (Carr 2007), quantum physicists (Deutsch 1998; Wallace 2012), philosophers of physics (Tappenden 2000), science historians (Kragh and Longair 2019), as well as many others. A tentative attempt to resolve this increasing confusion is the taxonomical approach of Tegmark (2003).

⁸ Bertetti relies on the theories of Umberto Eco, Thomas Pavel and Lubomir Doležel.

in exact synchronization, which is, experimentally, impossible to prove since in the real world even the slightest interaction causes the wave function to decohere. As a consequence, they no longer oscillate in synchronization, which means that they also no longer interact. Schrödinger's cat was first suggested as a thought experiment in 1935 (Schrödinger 1935). More than twenty years later, Hugh Everett III (1957) offered the solution with the explanation that the wave functions exist at the same time, but in two different universes, meaning that Schrödinger's cat can be both dead and alive at the same time, but in two different worlds. His Ph.D. thesis later evolved to become the basis of the many-worlds interpretation and today "it has unleashed a tidal wave of renewed interest in the paradoxes of the quantum theory" (Kaku 2004, 168). Even more importantly, it originated a new way of thinking about reality, on both the micro- and the macro-level, successfully connecting with trends in other unrelated fields such as inflationary cosmology and the theory of observation-selection effects, all of which suggest that the multiverse is the ultimate reality.

According to Everett's theory of multiverses, today known as type III or Everett's multiverse (Tegmark 2003; Byrne 2007; Ćirković 2009), the universe constantly splits and creates new universes, and in this multitude of new realities each and every one is equally real. Although controversial when it was formulated, because it seriously challenged the Copenhagenists' views,⁹ Everett's theory foreshadowed the concept of quantum decoherence that is accepted today as part of the modern quantum theory since it offered the solution to the problem of the interruption of wave function by measurement by claiming that it is not actually interrupted and that the universe branches into new universes and that each new branch contains a copy of the observer that perceives his or her branch as the only outcome, i.e., the only world.

If applied to alternate worlds in the multiverse of realities, this would mean that the observer sees just one possibility as his or her reality and not the others, but this does not mean that these other "invisible" realities are not real, that they exist and are observed by someone else or even by a copy of the same observer in another universe, in a way that is similar to the possible reality outcomes visible to Philip K. Dick's characters who have precognitive abilities. In the past, scientists and philosophers were concerned with the issue of observation as the observer sees only one element of superposition, not all of that there are; however, the question of how and why the observer sees one

⁹ There is much confusion about what the mainstream Copenhagen interpretation is, or (even worse) what individual scientists involved in it, mostly Bohr, Heisenberg and von Neumann thought it was. This is certainly not the place to enter into those voluminous debates, apart from emphasizing the most important aspect of the Copenhagen worldview: the acceptance of the ontological autonomy of at least some parts of the macroscopic, everyday world of our classical intuitions. Whether we denote this autonomous part, "the apparatus," "the observer" or something else is unimportant; what is important, though, is that it is through the interaction of the microphysical system under investigation with that classical part of reality that properties of the microworld emerge. The process of their emergence is the (in)famous "collapse of the wavefunction" or "wavefunction reduction," which is eminently *real* in the Copenhagen view, although it may be subjective. For a generally sympathetic textbook overview, see Peres (1993).

particular state that the world has collapsed into, and not the other(s), is no longer the focal point of the dilemma of reality of worlds as they are all equally real and actualized. This means that all the states, at all points in time, exist simultaneously, so the world of the reader of this text coexists with the world of the Neanderthals, while both these worlds coexist with a version of Shakespeare's England where Marlowe was not killed. However, other than reading about these realities, there is no interaction between them since they have decohered, i.e., split into different realities. In exceptional cases, however, some of the models of the multiverse contain the possibility that previously decohered branches recohere again in the course of future evolution (e.g., Deutsch 1985). It is improbable in the extreme, but it is exactly such extreme cases which are most interesting from the artistic point of view.

Theoretically, as pointed out by Tegmark, the splitting universes can be represented from a bird's eye-view or from a frog's perspective, where in the former the observer sees the splitting of the universe into several realities, i.e., all the created universes, and in the latter the observer is within one of the universes created by the split and can see only that one part of the whole reality—i.e., only his or her own reality (Tegmark 2003, 48). These parallel universes, created as the result of the quantum event, are not spatially distant, rather they represent different quantum branches sprouting from the same universe and representing, as such, variations of the "parent" universe in which events have different outcomes. If applied to literature, in the majority of cases, we could say that the reader, along with the writer, has the privilege of observing the events and all realities from the bird's eye-view perspective, whereas the protagonists of the novels see only their own, singular reality. Yet again, Dick violated this common rule by putting his protagonists in more than one reality, or by shifting them from one to another, and by allowing them to be aware of more than one such reality, which is why they, along with the reader, perceive the world as a peculiar multiplicity of realities.

Dick's novels *Ubik* and *The Man in the High Castle* can be read as literary examples of decohered realities. In *Ubik*, Glen Runciter—the owner of Runciter Associates, an organization offering psychic services as safety measures to clients requiring privacy—assembles a team of eleven "inertials" to secure the lunar facilities of the client, Stanton Mick, from psychic intrusion by other individuals with precognitive and telepathic powers. The team—including Runciter, technician Joe Chip and Pat Conley, a girl with mysterious psychic abilities that can affect the present by changing the past—travels to Luna to provide their services to the client, who turns out to be Runciter's main competitor Ray Hollis. They fall into a trap set by Ray Hollis and apparently everyone survives the bomb blast except for Runciter, who is transported to the Moratorium, a cryogenics-like cold-pac facility for the technologically supported temporary existence of people in half-life, which ends with true death after the remaining energy of the person in suspended animation is exhausted. The explosion on Luna proves to be a key event, and after it no-one is certain about which of the realities that the protagonists experience is real. Eventually, it turns out that all members of the team are in cold-

pac. There are in the meantime several realities described, starting with an alternate America in 1992, in this text regarded as the primary reality, which, however, disperses itself with the emergence of alternate realities of cold-pac, in which one of the half-lifers named Jory consumes the energy of other people in cold-pac to prolong his own existence. The alternate realities of cold-pac *initially* resemble the pre-blast primary reality, but the entropic regressions of things into their earlier forms and versions reveal that in fact time has started moving backwards.

The other novel, *The Man in the High Castle*, describes an alternate reality of San Francisco in 1962 where, compared to the objective reality, events in recent history have taken a different turn, resulting in the triumph of the Axis and subsequent division of the U.S. between Japan and Germany, with a small buffer area remaining between the two conquered territorial segments. Frank Frink, born Fink, who changed his surname to hide his Jewish origin, gets fired from Wyndam-Matson factory for producing counterfeit antiques. He then starts a business of making and selling original hand-made jewellery and offers his products to Robert Childan, who sells antique Americana to a Japanese clientele. One of Childan's clients, Nobusuke Tagomi, kills two Nazi agents and, incidentally and unknowingly, saves Frank's life. Tagomi is profoundly shaken by the murders he has committed and wants to get rid of the gun, so he wants to return it to Childan's shop, where he bought it. There, he is attracted to and buys one of Frink's pieces of jewellery. Later, while holding it, he undergoes a mysterious experience and is transported to another reality. All the characters make important decisions by consulting a book of divination, the *I Ching*, also known as *The Book of Changes*. The *I Ching* confirms that beyond the reality of the Nazi-controlled U.S., there is another reality whose existence is manifested in the meta-text of a book titled *The Grasshopper Lies Heavy* written by Hawthorne Abendsen.

Simultaneous alternate histories, or parallel worlds stories, "posit the existence of a number of simultaneously existing alternate worlds" which assume that history can be affected at any point, "with every choice resulting in a new universe splitting off" (Helleksen 2009, 456-57). In both *Ubik* and *The Man in the High Castle* certain points in time create new realities that decohere. However, these decohered realities within the novels violate the principle of no interaction as the protagonists become aware of the existence of realities other than the one(s) they live in. There are "ripple effects" which may subtly indicate the presence of alternate worlds, analogous to quantum interference effects, thereby indirectly demonstrating the existence of "roads not taken" in any particular measurement outcome.

2. DECOHERED (FICTIONAL) WORLDS

If one wanted to pinpoint the key moments in these two novels that resulted in the deviations that support their interpretation by using the principles of decoherence, in *Ubik* it would be the explosion on Luna. In *The Man in the High Castle*, however,

the departure moment in fact happened before the narrated events, sometime in the early 1930s, when President Roosevelt was assassinated in the primary reality of the novel. This assassination is an event that is known in alternate history novels as a “‘nexus point’ or ‘Jonbar hinge’, the latter coined in Jack Williamson’s *The Legion of Time* (1938),” an altered historical moment that is used by the author to explore the consequences of the divergence (Hellekson 2009, 453).

The two events, the explosion on Luna and Roosevelt’s assassination, can be viewed as quantum moments when the primary universes in each novel branched into several alternate realities which, according to scientific theories, should no longer be in contact with each other. Consequently, the entities from one reality should no longer perceive the other reality/realities since they have decohered and thus become separate, with no possibility of any interaction between them (except, as mentioned above, in the improbable case of Deutsch’s recoherence).

It is tempting to compare the fictional reality of a novel with the Schrödinger’s cat thought experiment, where the novel could be the box before it is opened and all possible realities exist simultaneously, which changes once a reader starts reading it and one reality, the one that is written, becomes manifested through the process of reading. This, however, would be an oversimplification. Dick’s “box” of a novel is in fact full of other “boxes” that need to be opened and instead of one reality (one cat, which is either dead or alive), the writer confronts the reader with several realities (the cat that is at once both dead and alive), allowing them the privilege of seeing, or perceiving, all these realities at once, even though they have decohered. This is possible since the reader is in the position of being able to “watch” everything with their bird’s eye-view.

Technically, the process of decoherence can be observed from two positions, which we will term internal and external. The latter is easy to conceive and explain as it refers to differences based on novums, i.e., between the primary reality of the novel and the objective reality of the reader. In *The Man in the High Castle*, in addition to the advanced technology portrayed in the primary reality, the differences stem from the alternative outcome of the Second World War as a result of the assassination of President Roosevelt. In *Ubik*, Bertetti identifies at least three dominant novums: 1) parapsychological powers; 2) the possibility of civilians travelling to the Moon; and 3) the moratoriums, where “deceased” individuals, kept in half-life, can communicate with the living (Bertetti 2017, 54). External decoherence will not be the focus of this analysis as it can be universally applied to practically every book and it complies with scientific theories, meaning that the boundaries between the objective and fictional realities cannot be broken and the reader cannot enter into or interact with the fictional world.¹⁰ What is of interest for us here is internal decoherence, the results of which are the decohered realities *within* each novel, each created as branches of primary realities.

¹⁰ This is based on the condition that we consider only typical novels written in print book or e-book format with no option for the reader to change the content or interact with it.

In *Ubik*, the reader can distinguish two sub-levels of internally decohered realities. The first refers to the alternatives perceived by the precogs, i.e., those individuals with precognitive abilities who see a number of possible realities, one of which is actualized after the future quantum event. As explained in the novel,

The precog¹¹ sees a variety of futures, laid out side by side like cells in a beehive. For him [*sic*] one has greater luminosity, and this he [*sic*] picks. Once he [*sic*] has picked it the anti-precog can do nothing; the anti-precog has to be present when the precog is in the process of deciding, not after. The anti-precog makes all futures seem equally real to the precog; he [*sic*] aborts his [*sic*] talent to choose at all. (Dick 2012, 28)

In Dick's fiction, consciousness continues to play a role in the mechanics of reality creation. The precog's ability resembles that of a writer as described in Borges's story "El jardín de senderos que se bifurcan" ["The Garden of Forking Paths"] where in "all fictional works, each time a man [writer] is confronted with several alternatives, he chooses one and eliminates the others" (Borges 2007, 26), or the well-known quantum view of the fallen tree that exists in all possible states before someone observes it (based on the Copenhagen interpretation), when it enters into the definite state of existence. Psi-talents, as psionic powers are termed in the novel, basically allow the precogs and anti-precogs insights into several possible realities, among which the primary reality is but one variant or one of a number of parallel universes. For example, the explosion on Luna can be interpreted as the quantum event that results in reality splitting into several realities that are all visible from the bird's-eye perspective, whereas the protagonists, each of them from their individual frog perspective, continue to live in and perceive only one reality. People with psi-talents, however, are exempted from this rule. Unlike individuals without psi-talents, precogs and anti-precogs see the variants that will come into existence following the quantum branching and which they see as future alternatives among which their talent allows them to choose and actualize one to be perceived by everyone else (viewing it from the frog's perspective) as the primary reality.

The second-level decohered realities are those created with the explosion on Luna and perceived by Joe and other members of Runciter's team, including the one Runciter himself perceives, as it turns out at the end that everyone could be in cold-pac. Another interesting factor is the psi-talent of Pat Conley, whose powers surpass that of precogs and anti-precogs as she can go into the past and choose another reality to that which has been chosen by a person with psi-talent. She can see a moment in the past in the same way the precogs see possible futures and thus she can make a different choice,

¹¹ The precogs in *Ubik* are not the same as the mutant precogs in the story "The Minority Report," who do not select and actualize one reality, although their talent still affects the future. Their precognitive abilities can be explained by the theory of multiple realities because "if only one time-path existed, precognitive information would be of no importance, since no possibility would exist, in possessing this information, of altering the future" (Dick 2013, 240).

annulling the precogs' ability and awareness that another reality alternative had been selected because they remain unaware of her actions. What further complicates the relationship among these realities is the suspension of linear time flow, which results in the loss of a clear distinction between the past and the future. Accordingly, the second-level realities that the protagonists perceive in cold-pac could actually be first-level realities as well—the results of those with psi-talent, i.e., the product of the reality split following the quantum event of selecting and actualizing one particular reality by Pat Conley's psi-talent, although the author never explicitly says this. However, this could mean that we, as readers, are faced with several realities that are not clearly separated and that each of them is a reality that is perceived by at least one individual present during the explosion on Luna.

In *The Man in the High Castle* the internally decohered realities are the primary reality of the novel perceived by the protagonists; and the alternate historical reality in which the Allies won the Second World War, as revealed by the meta-text of Abendsen's book *The Grasshopper Lies Heavy* and the *I Ching*. The alternate reality is literally inserted into the primary reality as information through meta-texts that challenge its authenticity. The former text was, though, written with the aid of the latter, which the protagonists consult for all important decisions and to obtain answers to the questions about the reality they live in. During the process of divination they interpret the hexagrams in the *I Ching* that they receive as answers to their questions. Perhaps the most significant hexagram is no. 61, the *Inner Truth*, which Mr. Tagomi and Frank's ex-wife Juliana each receive as the most crucial sign that the reality they perceive is not the only one that exists. The difference here, in comparison to *Ubik* and Dick's other multiple-reality novels, like *The Three Stigmata of Palmer Eldritch*, *Eye in the Sky* and *A Maze of Death*, is that the alternate reality is manifested as a result of large-scale historical and military events that impact all of humanity, and not (only) psychological events impacting the protagonist or a small group of persons in their immediate vicinity.¹² One might perceive here a vague analogy between those interpretations of Everett's work which emphasize the branching of the local wavefunction of the observer and those which postulate the branching of the entire wave-function of the universe.

Decoherence makes consciousness unnecessary in quantum mechanics (while accounting for what has often been criticized as the "subjective" nature of the quantum world, at least in the dominant Copenhagen interpretation), but in Dick's fiction it seems that it continues to play a role in the mechanics of reality creation—in *Ubik* through psi-talents and in *The Man in the High Castle* through the process of consulting the *I Ching*, including the process of Abendsen's writing of *The Grasshopper Lies Heavy* and even Dick's writing of the novel itself, given that Dick himself confirmed on several occasions that he consulted the *I Ching* during the process of writing this novel

¹² An interesting mixture of the two is encountered in Dick's 1967 short story "Faith of Our Fathers," where a large-scale political event (the victory of global Maoist "revolution") precipitates mass usage of hallucinogens and bifurcation of realities.

(Dick [1965] 1995, 181-82; Palmer 2003, 128). However, in *Ubik* the conscious selection of one among many different realities could be an illusion, as Pat Conley's talent demonstrates, and in *The Man in the High Castle* the forces behind the process of consulting the *I Ching* exceed the boundaries of human consciousness, as the *I Ching* to Dick was far more than a mere tool for divination, that is, it was "not a fortunetelling device" in that it was "analytical and diagnostic, not predictive" (Dick [1965] 1995, 179). Furthermore, Dick saw each of his novels, *Ubik* among them, as "primarily a dream, or series of dreams," expanding on the theme of the pre-Socratic pantheist philosophical view that the cosmos is a vast conscious entity (Dick [1976] 1995, 224). On the one hand, this coincides with Everett's idea of making "the observer an integral part of the system observed, introducing a universal wave function that links the observers and objects as parts of a single quantum system" (Byrne 2007, 100). On the other, it could explain the process of reality branching, regardless of whether a conscious human observer is present and observing the events or not. Accordingly, the alternate realities within these two novels become independent realities and each of them is perceived as the primary reality and, as such, in line with the tenets of decoherence theory. However, there is interaction between the different realities in each novel, meaning that they continue to vibrate in synchronization, and thus the wave function does not fully decohere; rather, its branches interfere with each other. Paradoxically, it is precisely this continuation and interference that reveals their existence.

3. WORLDS IN SUPERPOSITION

The existence of decohered realities is made obvious by way of the protagonists' perception of more than one reality, where different worlds are in superposition. In *Ubik* this underlying superposition is manifested in the simultaneous existence of several variants of one object in a single place, as the example of the elevator in the headquarters of Runciter Associates shows. Joe and Al, another member of Joe's group that was present during the explosion on Luna, are looking at the same elevator, which manifests to them as two different models, one with an iron-grill door and the other as a modern hydraulic-powered device:

[Al] ceased talking. Because the elderly clanking contraption had dimmed, and, in its place, the familiar elevator resumed its existence. And yet he sensed the presence of the other, older elevator; it lurked at the periphery of his vision, as if ready to ebb forward as soon as he and Joe turned their attention away. It wants to come back, he realized. It intends to come back. We can delay it temporarily: a few hours, probably, at the most. The momentum of the retrograde force is increasing; archaic forms are moving toward domination more rapidly than we thought. It's now a question of a hundred years at one swing. The elevator we just now saw must have been a century old. (Dick 2012, 123-24)

One can regard this example as both a superposition of different moments in time (or history, including cultural history, where different epochs are characterized by different elevator technologies and designs) and a superposition of different stages in the evolution of what Dick's neoplatonic/gnostic and Jungian intellectual forebears would call the archetype of elevator.

Another example of realities in superposition is Archer's drugstore, abandoned in 1939, which Joe first sees as still open, then as abandoned and finally as it was before the explosion. These snapshots could be thought of as temporal slices of the overall spatiotemporal "thing itself" or the Aristotelian essence of Archer's drugstore; how exactly this underlying superposition would be sliced up is dependent on the individual observer. In a sense, though, it is Joe who determines which slices are present in the narrative; it is his preferred reference system which corresponds to the three slices mentioned in preference to others. To an objective observer on the outside (who is manifestly not Joe, and may well be the reader, who is, perhaps unwittingly, drawn into Dick's subtle ontological game), the drugstore becomes the "place" where more than one reality overlap, all of them existing simultaneously. The quotation marks are appropriate here since it is not really a spatial "extension," to borrow Tappenden's term, but rather an extension along the axis orthogonal to "spatial and temporal" coordinates (Tappenden 2000, 105-106).

The following paragraph from *Ubik* provides an illustrative example:

Presently [Joe] stood before [the building], experiencing physically the tidal tug of the amplitudes; he felt himself drawn back, then ahead, then back again. Pedestrians clumped by, taking no notice; obviously, none of them saw what he saw: They perceived neither Archer's Drugstore nor the 1992 home-art outlet. That mystified him most of all. (Dick 2012, 173)

It should be noticed that these are local, specific objects; by writing "none of them saw what he saw," Dick seemingly circumscribes the subjective and even mental nature of the superposition. However, the mental limitations of Dick's protagonists do not constrain the reader's interpretative project. Joe is both an observer of the underlying reality and a part of the system under observation. If he, as observer, collapses or attempts to collapse (as per the Copenhagen view) the superposition he is confronted by, this is only a subspace of a wider reality, one that is observable to the reader. The reader might still be able to endorse the reality of both—or all—the alternative histories of the protagonists. In other words, Joe's epistemological and ontological commitments do not oblige the reader to either accept or reject the multiverse of possibilities.

In *The Man in the High Castle* the most obvious evidence of the existence of the multiplicity of realities, as revealed by the *I Ching*, is Mr. Tagomi's experience. While studying the piece of jewelry made by Frank Frink, Mr. Tagomi becomes aware that it contains a whole new world. He scrutinizes it carefully, with his eyes, ears, nose

and fingers, but the truth about the existence of another reality cannot be revealed by his senses alone, as he can observe the reality only from Tegmark's frog's perspective. Conveniently, Dick in fact compares him to a frog, although this comparison does not directly refer to the observer's perspective: "Like frog pulled from depths, he thought. Clutched in fist, given command to declare what lies below in the watery abyss. But here the frog does not even mock; it strangles silently, becomes stone or clay or mineral. Inert. Passes back to the rigid substance familiar in its tomb world" (Dick 2011, 242). The only way to surmount the limits of Tagomi's senses, as portended in hexagram 61, is through an inner feeling that is awoken by an authentic handmade object, which guides him on his path to the truth about another, different reality:

Where am I? Out of my world, my space and time.

The silver triangle disoriented me. I broke from my moorings and hence stand on nothing.
(Dick 2011, 246)

The experience of another reality is dreamlike, like the cold-pac realities in *Ubik* that "Bardo Thodol, the *Tibetan Book of the Dead*" tells about (Dick 2012, 12) or the "Bardo Thodol existence," as Mr. Tagomi thought in *The Man in the High Castle* (Dick 2011, 245). Yet, Tagomi's experience is not clear, undeniable evidence that different realities actually exist. Practically everything in Dick's fiction is deniable as there are no firm points of reference, no ground of reality that the protagonists can firmly stand on. There are dreams, guesses and inner feelings, which lead to possible truths, but also there are forces calling to de-decohere or re-cohere the multiplicity back into one, ostensibly coherent and real reality.

4. AGENTS OF RE-COHERENCE

There are elements that Dick introduced to serve as the anchors of reality, agents of truth that de-decohere and thus re-cohere multiple realities into one that can be safely lived in, even if its realness is no more solid than the stuff of dreams. And yet, even the illusion of reality is better than no reality at all. Otherwise, everything would fall apart, and the protagonists would be hopelessly lost, if not in insanity, then in a state in which no individual can live for long, as consciousness needs a link to reality to create at least the illusion of meaningful existence.

In *Ubik* the agent of re-coherence is Ubik. The advertisements at the beginning of each chapter present it as a hair product, a cleaning product, beer, coffee, salad dressing, antiperspirant and other consumer goods, turning Ubik into a media product with the potential to fabricate realities. But Ubik is also a series of dreams, a vast, thinking, conscious entity, which, at its deepest levels, is similar to the (sub) consciousness of man-as-being, similar to the Jungian archetypes submerged within the collective unconsciousness. In the epigraph to the last chapter, Ubik is revealed

as the creator of all, as (unnameable) Logos, the creator, God, saviour, which emerges through the layers of illusions, through a multiplicity of realities, none of which is more real than any other. Ubik is the force that reverses the destructive regressive time flow. Dick believed that our objective reality is similar to the realities in the novel and that we are in half-life like the characters in *Ubik*, waiting for the veils of illusions, the “layers of accretions, which we call *dokos* or *Maya*” to be lifted (Dick [1976] 1995, 216-17).

In *The Man in the High Castle* the agents of re-coherence are Abendsen’s book *The Grasshopper Lies Heavy*, the *I Ching* and the authentic pieces of jewelry created by Frank Frink. They are artefacts of reality in the world(s) full of illusions. The protagonists see these re-cohering agents as an opportunity to return the universe into its natural state by annulling the effects of the time-flow reversion and the prevalence of the “wrong” universe in which the Nazis have won the Second World War (note that this does not actually preclude having an objective measure of the quality of a universe, like entropy).¹³ But the time reversion in *Ubik* is actually the return of the illusion of linear time into orthogonal time, which Dick considered to be the true time. He experimented with this approach with varying degrees of success in other, generally inferior works, such as *Time Out of Joint* (1959) and *Counter-Clock World* (1967). Similarly, the world of *The Man in the High Castle* is no less real than the world which is seen by Mr. Tagomi in his revelation and which is also revealed to Abendsen and the others through the use of the *I Ching*.

There are numerous similarities between the reality of *The Grasshopper* and the objective reality of the reader, such as Rommel’s defeat in Africa, the existence of Stalingrad and the final defeat of the Axis powers. However, the reader’s universe is not the one that is described in Abendsen’s book, where President Tugwell sent all ships to sea, so there was no Pearl Harbor, and Hitler, Goebbels and Goering answered to the prosecutors. The primary reality of the novel is not a simple inversion of the reader’s objective reality, nor is the reality of Abendsen’s book a simple inversion of the primary reality that can be equated with objective reality. In the multiverse, the inversion of inversion does not produce inevitably, like in algebra, the initial value, so Abendsen’s book is not in fact about the reader’s world (Ćirković 2009, 3).

None of Philip K. Dick’s fictional realities can be equated with the objective reality of the reader, although they are its reflections, its variants that possibly decohered from it and as such exist as separate realities. None of them is more or less real, since

¹³ The relationship of entropy to decoherence is a fascinating subject in physics and the philosophy of physics. Taking one path among many superposed paths via decoherence leads to an increase in entropy; this is intuitively in accordance with Boltzmann’s famous relationship between entropy and probability, which can therefore be extended to both classical and quantum domains. In Dick’s world, the obvious effort expended by the protagonists to bring “the familiar elevator” back into existence (for example) leads, like the classical concept of thermodynamical work, to the dissipation of energy and increased chaos. The detailed analysis of such examples is, unfortunately, beyond the scope of this study.

according to the multiverse theory, all conceivable realities exist somewhere in the vast, endless, infinite universe.

5. CONCLUDING REMARKS

Dick's alternate (fictional) worlds can be seen as examples of decoherence—they include a variety of realities in which events have not occurred in the same way as in the primary reality of the novel (which the protagonists perceive, at least initially, as their objective reality) or as in the objective reality of the reader (Jakovljević 2015, 51). However, what makes these realities unique is precisely the violation of the decoherence principle, as the protagonists not only discover but in fact perceive other realities, and interact with them, and these realities interact with the protagonists' (primary) realities. Everett resolved the measurement problem in quantum mechanics by joining and merging the microscopic and macroscopic worlds, thus making the observer and the observed inseparable parts of a single quantum system; Everetians have ever since touted this as a clear advantage of their theory in interpretative and epistemological—though not necessarily in metaphysical—terms. Dick effectively joined fictional and objective realities by making both the reader and protagonists part of a multiverse that branched into a multiplicity of realities, some of which we, as readers, can perceive while reading his fiction. Like Borges's Ts'ui Pên in "El jardín de senderos que se bifurcan" ["The Garden of Forking Paths"], Dick "chooses—simultaneously—all of them. He creates, in this way, diverse futures, diverse times which themselves also proliferate and fork. Here, then, is the explanation of the novel's contradictions" (Borges 2007, 26). We need to lose our ontological blinkers in order to see and appreciate the solution of the conundrum; it is an old solution, but never in the history of ideas has it been more promising in both cognitive and aesthetic terms.

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