



A Micrology of Pattern Recognition in Philip K. Dick's *A Scanner Darkly*

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ABSTRACT

This article is a conjointly formal and thematic inquiry dedicated to unpacking the internal coherence of Philip K. Dick's *A Scanner Darkly* (1976). Organized around the unifying problem of pattern recognition, the article clarifies the deep congruence that exists between the seemingly unrelated imaginary technologies of the novel, used on both sides of the central demarcation that divides the identity of its protagonist: law enforcement and the trade in controlled substances. While it benefits from concepts designed to investigate science fiction as a genre, it also brings in discourses developed to make sense of media technologies in the real world. Guarding against the danger of eclipsing the text under information about the media historical context, this article allies media theory with narrative analysis and relies on "micrology" as a strategy of selective close reading following the logic of detection, recognition, and the failures thereof in the novel. This manner of inquiry allows me to specify the nature of pattern recognition as a lost capacity in the narrative arc, tracking the problems of information theory and the decline of cognitive capacities, as well as demonstrating their immanence to a single complex of ideas. In this sense, what belongs to intellectual history in the following discussion, is subject to the requirement that it makes the technological and psychological aspects of the narrative more intelligible and respond to the unique challenges of its combination of estranging world-building and all too familiar countercultural tropes.

Keywords: Scanning, camouflage, Gestalt, neurology, abstraction



Introduction

Pattern recognition is a category of the information society, and by virtue of its hybrid origins in Gestalt, cybernetics, and cognitive psychology, makes multiple references to machinic detection and human perception, as well as form and information, at the same time. When the machines detect, it is a digital process that is involved, going through the sequential steps necessary to match the as yet unknown object with the rules and parameters fed into the system earlier; preliminary rules-input from the programmers and algorithmic elaboration work toward the desired results. Such are technologies of scanning. As for human perception, some will claim it eludes capture in the same terms, raising the ghost of irreducible wholes, field processes, and meaning. However, an argument for irreducibility of this kind will have to reckon with the fact that scanning has long been a fate for subjectivity as well: telepresence and communication media do not leave their users unchanged; the higher the number of affordances they create, the more inescapably do they situate their users in the loops of availability, convenience, and instrumentality they promise.

Perhaps purely analog modes of consciousness and reception have long ceased to exist in this hyperconnected world. When it is a question of pattern recognition, therefore, it is not always clear where the machines end and the human begins. John Lardas Modern observes how, at some point in the last century, "scanning became part and parcel of a conception of the human, a particularly cognitive conception of the human bent on pattern recognition" (Modern, 2021, p. 92), suggesting scanning as a common fate for the machine and the human, whatever the divergent ways they perform this activity. The scanners of Philip K. Dick's 1976 novel *A Scanner Darkly* rather neatly capture this multiple origin: mechanisms dedicated to object detection, they are not without a necessary connection with human perception as either model or something to be superseded. The unfailing way they perform their functions only makes the fragility and possible "degradations" of human perception more palpable (Simondon, 2020, p. 259).

Scanner is ostensibly a narrative of cognitive decline which severely affects the pattern recognition capacities of its main character, with effects ranging from disturbed basic perceptual figure-ground functions to a diminishing sense of orientation with regard to the systemic social relations that surround him. Thus, in the narrative, patterns are present through their absence, or found in degraded forms, with the protagonist drifting toward the pharmacological bleak end of a state where he will approximate a

“closed loop of tape,” a subject of repetitive stereotyped responses who is not likely to change, learn, or respond to novelty (Dick, 1991, p. 66). Diegetic pattern recognition in this soured utopia is a matter of yearning and nostalgia, not an active exercise (unless present in the opaque activity of machines). Everything is different on the pre-diegetic or the world-building level. To depict the decline of pattern recognition, Dick exerts careful artistic control and presses into service a whole host of “nova” like scanners, suits, and ambience modulators.¹ He pairs the diagram of these technical interventions in perception with an insightful characterization of systemic overdetermination for the sociohistorical and political structure of his world, which is closely based on his immediate past and present.

In the *Scanner*, the tried and tested Dickian scheme of a breakdown that could constitute an exit from an illusory reality itself breaks down, as it were, and as Eli Lee (2017) puts it, “all further possibilities are foreclosed. The only self is the disintegrated drug addict, the only reality their collapsed horizon” (Lee, 2017). Similarly, certain redeeming skills and relationships that populate Dick’s earlier novels also take leave or find representation only in their decline: as Christopher Palmer noted, the novel’s characters “do not work making things and (...) they fail in their attempts to repair things and to understand simple mechanical processes, although it is by means of these attempts, more than anything else, that they want to establish their place and identity as people” (Palmer, 2003, p. 183). This also correlates with the complexity of the description brought to bear on the core political antagonism in the novel: while the political allegiances take a schematically antipodal form in some of Dick’s works, it is the very impossibility of making clear demarcations and the ultimate indiscernibility of the seeming opposites of “cop” and “dealer” that give *Scanner* its power.

According to a view of Dick’s career that is perhaps a common temptation, *Scanner* is Dick’s last work before he abandons an artistic investment in worldly relevance and politics to take a turn toward metaphysics and theological excess, an intermission between the political and the theological. The deep contrast between a work like *The Man in The High Castle* (1962) with its masterful use of counterfactual history tropes and a work like *Valis* (1976) can be taken as an illustration of such a view. *Scanner*’s possible status as a dystopian novel also belongs to this debate. Dick’s tragic

1 I borrow the term “novum” from Darko Suvin’s influential discussion of science fiction technologies, where it refers to an imaginary technology or technic that supports the cognitively estranging encounter with the logic of a different world.

understanding of a “play” being punished can be taken as a variation on a dystopian set-up (Rossi, 2014, p. 162). By pitting various forms of life against each other, not least in the backstory that pushes its main character out of a meek middle class family life where “nothing new could ever be expected” (Dick, 1991, p. 64) to an ultimately costly adventure of dual existence, the novel grounds its concern with modes of perception in a deeper concern with modes of life and destitution.

Against this background, my particular intervention is to show how perception and pattern recognition emerge as loci of lost empowerment in the novel. It is easy to establish how Arctor’s neurological damage impacts his powers of abstraction, but it is also important to restore such a destitution to its context in the larger form of collective life portrayed in the novel; doing this, it is possible to realize that pattern recognition is not a merely abstract computational operation limited to just the neurological in *Scanner*, and the damages on the neurological level also imply an acknowledgement of embodiment, environmental integration, and overall a form of life. To make this case, I proceed through the series of technological nova Dick uses, slowly unpack their significance, and in a micrological manner, demonstrate the general logic of pattern recognition they support.² The mode of inquiry draws equally from media studies and a philosophically invested close reading.

In the absence of the characteristic reality breakdowns or reversals and a dearth of possible worlds, overall Dick’s novel presents a simple plot. Instead of tightly knit action sequences and well-defined enterprises, it seems to travel between nodes of description devoted to the various parts of the network of interests surrounding drugs including law enforcement, the addicts and dealers, and finally a medical organization ranging from neurological research to rehabilitation clinics. It is not an accident that the glimpses Dick offers of surveillance, smuggling, and finally the growing of Substance D, are of a kind attuned to the real abstraction inherent in these interlocking operations, and indicate an interest in how the vast ramifications of exchange relations beyond the perceptual level may have effects on that level. The judicial, penal, and carceral sides of the network are mostly absent, perhaps in favor of the novel’s insistence in identifying the worst with the loss of certain cognitive capacities and the resultant production of a kind of bare life or destitution. Most of the time, Dick’s focus is on the street, sending

2 As Dews (2013) states, “micrology is the picking over of the rubble, a reflective immersion in inconspicuous, crushed, neglected things” (p. 208). This description is especially fitting for the novel’s treatment of one particular imaginary technology: the cephalochromosome, on which more later.

dispatches and set-pieces from the uniquely paranoid and unexpectedly hilarious world of the users, including his splitting protagonist Fred/Bob Arctor.

Darko Suvin suggested that “Dick’s truth lies in his plot or fabula” (Suvin, 2002, p. 373), but a reading that sticks to plot lines, however fine or complex, will miss a few things in this novel. The novel’s inclusion of infodump elements in the form of “items” covering subjects like psychological warfare and hemispheric difference in the brain is only a part of this, and belongs to a long tradition in sci-fi. In his reference to “fabula,” Suvin is invoking a formalism of narrative analysis, and reading *Scanner* also demands –perhaps also trains one in– a broader formalism including the tightly woven and semiotically dense elements of the novel’s world that are not always there to support the plot. Suvin himself was not indifferent to this dimension, and helpfully referred to “a thick web of correspondences” he associated with a poetry of the Symbolist kind (p. 376). In an article on the question of drugs and counterfeiting, Marcus Boon associated this different narrative economy with the term “diagram”: “The basic setup of *A Scanner Darkly* is a kind of ontological diagram. There’s very little in the way of narrative. The novel consists in describing the way various characters behave within the structure of the diagram. And it then proposes the possibility of overturning or erasing the diagram” (Boon, 2015, p. 77). The novel’s implicitly parallel treatment and grouping of technologies of detectability, visibility-invisibility and recognizability-unrecognizability can be attributed to such a pattern or diagram that works alongside the narrative’s sequential progress; this parallel linking makes it possible to obtain echoes and resonance from their internal relations, creating an increment of information: Scanners are pattern recognition machines; the scramble suit is a recognition-proofing device; the drug Substance D degrades receptivity and erodes the internal neurological coordination that would make pattern recognition possible; finally, the novel’s only seemingly innocuous recreational tech, the cephalochromosome, makes one kind of invisible pattern–the neurological– visible.

It is important to note that the distinction drawn here is not absolute, and there are ways the two logics of narrative and diagram interact with and inform each other. For instance, the diagrammatic quality in the narrative structure of the novel is inherent in the basic gestalt switch in which Arctor goes from “Gestaltung as self-formation” (Alexander, 2020, p.84) to the erasure of subjectivity through mimicry. Similarly, certain bits of technological nova function in a duality of ways to serve both the narrative and the diagram: in its dysfunction the cephalochromosome is a typical foreshadowing of Arctor’s

neurological impairment, but it is also a revealing piece of the overall complex of pattern recognition in the novel that makes sense regardless of the irreversible plot progress.

Noise and Contour-erasure

In the novel, the “scramble suit” the protagonist wears for disguising his identity, is a proper science fiction novum: An imaginary technology that belongs to a constructed world and responding to its exaggerated demands. In this case, the demand is making the wearer impossible to recognize in their interactions on both sides of the law, for reasons of security and personal safety: in the novel's obscure and entangled relations of enforcement, it is imperative to protect undercover narcotic agents from undercover informers of the traffickers. While some critics like Suvin had their reservations – a “quite improbable ploy” he declared (Suvin, 2002, p. 376)– Dick proposed the following reason for including such a novum in the novel: “why are scramble suits necessary? Crime (the Mafia? identified as dope elements) have penetrated the authorities deeply. As is said again and again in the novel: ‘all is murked over,’ things are not as they seem (as is always the case in my writing). Arctor is not what he appears to be. Nor is Donna. Nor Barris. Nor Mike Westway” (Dick, 2012). The suit, like the scanner that gives its title to the novel, finds its justification in the economy of law enforcement measures and more particularly the blurred lines that spread “murk” and make it difficult to distinguish the traffickers from the police units. The suit is also the first entry in the novel's litany of technologies of visibility-recognizability in general.

While it illuminates his motives, Dick's comment does not offer much insight into why he hit upon this particular form of pattern-frustration or concealment and no other. To illustrate the effects of the form and explore the full extent of its implications, it is necessary to look at his presentation in detail. In a deft move, Dick places the invention of the suit in Bell Laboratories, which also happens to have been the employer of the father of information theory, Claude Shannon, when he came up with his formal schemes of information encoding and transmission. The name for the device is generic and operation-based like “scanner,” and draws from a cryptanalytic lexicon of encoding and decoding messages: In this lexicon, “scrambling” is synonymous to encryption, but the novel does not hint at any other corresponding technology that can “unscramble” the information encoded in the suits. What is at stake is a rather absolute computational randomization with a simple design: A computer database storing images linked up to a “shroudlike” membrane which acts as a screen for projection, thus entirely clothing the wearer in falsifying information.

A different way of putting it would be to define the suit as a noise emission device, where what functions as noise is paradoxical. No balaclava for this special agent—disorientingly, the units of randomized projection used by the computer are faces or parts thereof, thus things often taken to be meaningful: “a million and a half physiognomic fraction-representations of various people: men and women, children, with every variant encoded and then projected outward in all directions” (Dick, 1991, p. 23). Based on such a description, seeing the suit in action must be a slightly dysphoric experience and not the kind of pleasant surprise Joseph Brodsky registers in his poem on the butterfly: “What bits of faces, what broken times and places shine through your form” (Brodsky, as cited in Forbes, 2011). The idea is to use the very variability and excess of the micro-scale information as a protection against visual identification on the personal scale, which is enhanced by the voice scrambling built into the suit: the wearer “cannot be identified by voice, or by even technological voiceprint, or by appearance” (p. 22). The suit makes the famous McLuhanian formula of pattern recognition (“in order to cope with data at electric speed in typical situations of ‘information overload,’ men resort to the study of configurations”) spin its wheels, as the pattern recognition that can supposedly thrive in information overload hits the wall of the prearranged noise of strange faces (McLuhan, 1964, p. vii).

The basis of the whole description is a problem of pattern recognition and is hard to miss. The suit lends itself to contextualization of a few different kinds in this respect. In a way germane to Dick’s reference to shuffled physiognomic units, cognitive psychology also raises the question of whether faces make sense and gain recognizability as a whole or in the form of analytically smaller parts like “features” (Lund, 2020, p. 84). Face recognition as a theoretical principle delimiting the suit’s operation is given with Dick’s backstory for the invention and the inventor S. A. Powers; among the millions of faces the suit projects from its database, one belonging to Powers “surfaces” and “combines” with all the others, to add up to a minor “claim to immortality” (p. 23). For cognitive psychology, to talk about the face as a pattern is first of all to speak of a more taxing or qualitatively different pattern than most others. However, this does not make it totally singular, as “mechanisms for recognising faces have special significance but do not seem to be entirely different from the mechanisms for other types of recognition” (Lund, 2020 p. 83). Returning with these points in mind to the suit’s operation, a cognitive psychologist would account for its effects of unrecognizability by referring to overwhelming mental computation; its negations of recognition would thus emanate from an excess of affirmation of pattern.

Another insight into the suit's mode of operation lies in one of the defining dichotomies of Dick's writing career, which is the one between the private world (*idios kosmos*) and the common world (*koinos kosmos*). The possible functions of these terms may shift and correspond to different phenomena: The common is not always benign and can be coercive or ideological, and private worlds can be "deranged" as well as subversive. For Dick, the communication that is always so hard to establish between these registers on the level of perception becomes possible on the level of a technical projection: "In any case, the wearer of a scramble suit was Everyman and in every combination (up to combinations of a million and a half sub-bits) during the course of each hour" (Dick, 1991, p. 23). However this also means the common is achieved as the pure surface-effect of a technological gizmo, throwing both the wearer and the observer into a place beyond true communication, reinforcing private bubbles.

The reference the novel makes to modernist painting, *à la* Picasso and Klee as part of the genetic lineage of the suit raises a new question: the aesthetic status of an experience that ultimately becomes a police device in the form of the suit. Scott Durham rightly notes at this juncture "the integration of those aesthetic impulses and practices which once compensated for and criticized the everyday life of bourgeois society into the very practices which reproduce it" (Durham, 1988, p. 178). The suit's police function is thus parasitic on "the creation of new qualities in the everyday" (p. 178), complemented by the dysfunction of the only technology that is offered as a possible medium for such creation—the cephalochromosome.

In a way anticipated in the Brodsky poem about the butterfly mentioned above, the artistic background also communicates with a problem of camouflage in all its media-historical implications.³ While the suit's bewildering variations involve a rate of change and recombination that would not so easily blend into the background, Dick nevertheless suggests an overall impression of vagueness and blurriness and evokes a contour-erasure similar to camouflage: "He looks, does he not, like a vague blur and nothing more?" (Dick, 1991, p. 22). What I call contour-erasure is perhaps the single most important element of military camouflage as it developed in the discourses and practices of a curious mix of "natural historians, psychologists, representational artists, and militarists" (Shell, 2007, p. 31). It is not certain whether Dick was also thinking of a book on biological mimicry by Roger Caillois he had studied and annotated before he

3 As Peter Forbes argues, mimicry and camouflage can be taken as "specific" instances of the whole spectrum of "pattern formation" in nature (Forbes 2009, p. 114).

conceived the scramble suit (Dick, 2006, p. 156), but essays roughly contemporaneous with *Scanner* provide glimpses into the link between masking and illusory coverings in the human realm and a larger domain of natural history.⁴

Another potential illumination lies in the relation between gestalt-theoretical principles of perception and camouflage. As discussed by scholars like Roy Behrens (2000), the gestalt focus on “unit-forming factors” (p. 105) in perception made the subject of camouflage an attractive one for theorists like Max Wertheimer, and later another gestalt thinker like Arnheim would return to the subject: “In military camouflage the unity of objects is broken up into parts that fuse with the environment, a technique used also by nature for the protection of animals” (Arnheim, 1974, p. 73). As is clear from its various descriptions, the suit also works on the basis of large scale contour-erasure and microscale unit break-up (recombined facial features).

Finally, it is necessary to return to the information-theoretical conceptual basis of the scramble suit, which would entail a different inroad to the theme of camouflage than the purely formal Gestalt one, although these two frameworks often coexist in Dick’s work. A figure who is in a good position to comment on such a nexus is Gregory Bateson, whose diverse career spanned natural history and cybernetics. Bateson offered an information-theoretical clarification of the principles that inform camouflage: “Camouflage (the opposite of communication) is achieved by (1) reducing the signal/noise ratio, (2) by breaking up the patterns and regularities in the signal, or (3) by introducing similar patterns into the noise” (Bateson, 2008, p. 421). The computational underpinnings of the suit recommend Bateson’s first option signal/noise ratio modification as a good explanation of the working principle, while the last one suggests a transformation similar to the effect Dick obtains from faces as units of noise interfering with, or overlaying a particular one that is *not* noise.⁵

The last aspect of the suit to be discussed here borders on the media-historical and also helps us approach the narrative katabasis of the novel’s portraiture of neurological lapse and degradation. According to Hannah Rose Shell’s study of technologies of

4 As in Dick’s “Man, Android, and Machine” (Dick, 1995). Caillois’s category of “travesty” or misdirection in its contradistinction from camouflage is illuminating here (Caillois, 1960, p. 77).

5 The decryption not allowed by the scramble suit is present in the sonic decryption Arctor applies to the internal radio messages of the police: “... a gadget which, when he had mounted it within his car radio, told him a great deal, whereas the noises told other people—most other people—no information at all” (Dick, 1991, p. 136).

strategic concealment, the origin of military camouflage involves establishing a relation between seeing and invisibility in the same body: since concealment is maintained to ensure better vision, there is a unity of seeing and invisibility at the heart of military camouflage. The proper work of camouflage is partly that of a full body visor. For Shell, the story of military camouflage is often about “‘a seeing into the world’ activated by the rendering invisible of the self” (Shell 2007, p. 213). Thus, in a way that will prove significant for Arctor as well, strategic concealment also raises the question of the self and subjectivity from the beginning. Shell’s insightful remark that “looking like ‘something else’ is better understood as disappearance of the self” (p. 59) has portentous resonances for Arctor, who ultimately becomes a split personality. The unity of seeing and invisibility maintained in the person of the intelligence gatherer disastrously comes apart for this character, who slowly becomes more a case than a person. To condense Arctor’s evolving status through the novel into a formula, it is ultimately one of divestment, in which the movement is from the suit’s protection to an ultimate shedding of identity and the breakdown of cognitive capacities determinant for his sense of self.

In Praise of the Minor Novum: The Cephscope Interlude

The novel’s other imaginary technology, the cephalochromosome, is often marginalized in mainstream criticism of Dick’s work, and scholars including Darko Suvin give the impression—perhaps with good reason—that the suit and the drugs cover pretty much all in this novel (Suvin 2002, p. 375). Umberto Rossi (2014) goes as far as saying “the only really science-fictional devices in the novel are the scramble suit and Substance D” (p. 163), which is not quite accurate. Even if the cephscope is nothing game changing, and its critical marginalization follows an apparent marginalization inherent in the novel itself, there are a few points that would make dwelling with it worth the labor. In the following, the questions of what the cephscope is and how it works ultimately help to give a more comprehensive picture of the novel’s overall pattern recognition problems. In fact, the way the novel subordinates how the device works to its value already indicates how the notion of value has a big part to play in the readjustment of perspective the cephscope allows on these issues.

An initial reason why the cephscope is noteworthy has to do with the dual tracks formally pursued by the novel, combining narrative and poetic integration: As noted earlier, this device occupies a key connective status between the plot of declining cognitive capacities and the diagrammatic correspondences around recognizability-

detectability. In terms of narrative, from the beginning of the novel, every reference to the cephscope is also a reference to its brokenness or “damage beyond repair”—which may or may not be a result of sabotage—making it difficult to ignore a metaphorical identification between the terminal neurological state of the user of Substance D and the device: “He had a flash then: Jerry Fabin’s brain as the fucked-over wiring of the cephalochromosome: wires cut, shorts, wires twisted, parts overloaded and no good, line surges, smoke, and a bad smell” (Dick 1991, p. 66). Palmer’s sense that “to repair a malfunctioning car or a damaged ‘cephscope’ is to repair and reassure ourselves” certainly hits on something fundamental about the narrative economy (Palmer 2003, p. 186). However, while the device is a narrative foreshadowing, this is not without participating as a node in an extensive network of semiotic resonance, repeating the question of recognition with difference and modulating it.

How it works, the novel does not explain at length, but there are a few passages that hint at its function and mechanism: it is a “transmitting unit” and a display device emitting “colors and ceph patterns” (Dick, 1991, p. 36). In Palmer’s words, “a cephscope projects images from one’s brain in coloured form” (p. 186).⁶ Broadly, a cephscope seems to be a neuro-feedback device that makes the normally invisible and unconscious activity of the brain visible, helping to restore wonder in the face of the ultra-proximate, and difference in the identical. When one uses the cephscope, one makes what ordinarily is invisible and does the seeing into what one sees, thus the technology reaffirms the detectability-undetected complex at the heart of the novel. While a projection device like the suit, it differs from its police technology context. The working principle must be information-theoretical and cybernetic, as it is for the scramble suit, and entails a similar conversion between digital and analog information. Contrary to the suit, however, the novel does not even offer one sequence where it actually works and the broken nature of the device makes the lack of patterns and colors more conspicuous, consolidating the sense of the novel’s status as an exploration of pattern recognition lost.

A further point that naturally follows from the transmission and projection features and fills in the sci-fi fabulation, is the customization built-in to the normal operation of the device: What is transmitted and displayed is the “ceph patterns” corresponding to the neurological activity of one specific individual, who is Arctor in this case. For this

6 In terms of history of technology and media, in its interface capacity, cephscope belongs to the particular lineage of consumer ambience-modulating machines in Dick’s work like the Hammerstein Mood Organ (*We Can Build You*) and Penfield Mood Organ (*Do Androids*).

reason, the thought of somebody other than the intended user interfering with the machine's customized settings, or "imposing a brain-print of his own shorted-out upstairs" is suggested to be almost as bad as breaking it (Dick 1991, p. 64), a further addition to the novel's pervasive emphasis on the unstable nature of personal identity and the ambivalence of private worlds.

As Arctor is hurtling toward irreversible neurological decline, the suspected sabotage to his cephscope compounds his sense of cognitive disempowerment. By giving invisible and unconscious activity a perceptible form, the device must necessarily hold self-reflective and noetic promises. The broken cephscope is a broken recursion, playing into and preparing the theme of split functioning. The recursive dimension also fits with Dick's broader sense of the connection between perception and thinking in this novel, which finds a wider scope of discussion in the next section.

In this sense, the cephscope indexes something beyond pure recreation and markedly contrasts with the novel's depiction of dope consumption, even if recreation seems to be an important part of the set-up of how Arctor normally uses the device: "Like the deliberate, evil damage to his Altec cephalochromosome, around which he had built the pleasure part of his schedule... For someone to damage that made no sense, viewed rationally" (Dick 1991, p. 65). The novel's other pronouncements about the broken device make persistent reference to value:

[...] an incredibly expensive and valued cephscope that everyone in the house, plus all their friends, loved and enjoyed (p. 64).
"My primo possession," he thought bitterly. "And that fool Barris tinkering with it." (p. 36)

The meaning of the two possessions and two uses, that of Substance D and this transformative technology, differ significantly: a cephscope is favorable to a play of interactive pattern generation and pattern recognition, while Substance D erodes any perceptual difference. The contrast can also be extended in the direction of the scramble suit, and its own status as a technology built on the principle of co-optation by a police apparatus of perceptual novelty and "the creation of new qualities in the everyday" (Durham, 1988, p. 178).

What commands value here is not just the association between the cephscope and something inimitably one's own "brain-print"; but rather the possibility of, and openness

to novelty, denied by the dead-end reduction to “doomed patterns” at the end and the novel’s later remark that “nothing new will ever enter his [Arctor’s] brain” (Dick 1991, p. 265). In this sense, this seemingly marginal technology may carry more serious commitments than visible at first glance, not unlike the way the Hammerstein Mood Organ in *We Can Build You* is capable of aiding the emergence of “new configurations of brain stimulation” (as cited in Wolk, 1995, p. 109).

The Extreme Variation

In this part of the article, I will be looking at the novel’s treatment of the scenario of mental and existential impairment at its core. What seals the status of the novel as a story of gestalt collapse or a declining pattern recognition is its resort to the form of a clinical case involving its protagonist. To this end, it mixes a medically causal and neurological discourse on the one hand and a first-person, pathos-laden, more poetically framed sense of incapacity on the other, joined together in expressing a sense of pattern recognition lost. To unpack the scenes of the novel key to such an expression, I will briefly revisit Dick’s sources, as well as introduce a few conjectures of my own. The scientific background relevant to the neurological part of the story is largely concerned with the question of the functional difference between the brain hemispheres; as Dick mentions in a letter, he “had done a vast amount of study” on ‘split brain’ phenomena of some obscure kind, and theorizing for the novel” (Dick, 2012).

The novel sets up its approach to these questions through the key scene of the failure of Arctor and his dooper friends to perceive a simple scheme of technological functioning correctly, one that belongs to a ten-speed bike. From its introduction, the episode is already inscribed in a medical and pathological register, as the medical deputies attached to Arctor’s case pick up on it as a possible sign of cognitive impairment. The situation of medical testing where Dick introduces the episode is a characteristic one for his career, and has precedents in other works like *We Can Build You* and *Do Androids Dream of Electric Sheep?* A constant of the testing scenes, and in fact of the entire regime of psychological reflection in Dick’s work, is the central opposition between the presence of abstraction as a sign of normal mental functioning on the one hand, and a concretion that is fixated on the immediate as a sign of impairment or developmental imbalance. This opposition finds one of its most influential sources in the neurologist Kurt Goldstein’s clinical work, and filters down to a large body of psychological research which Dick uses for his own purposes. Goldstein is an appropriate interlocutor for

Scanner and its split protagonist, in that he is credited with providing Gestalt psychology with a proper neurological extension through a theory of “a holism of brain function” (Salisbury, 2016, p. 454). Dick does not make direct reference to Goldstein, although Anthony Wolk suggests he might have found “fertile ground” in his work (Wolk, 1995, p. 103).

In fact, the influential study Goldstein carried out with Adhemar Gelb on his patient Johann Schneider, and which gave rise to much philosophical speculation by people like Maurice Merleau-Ponty and Georges Canguilhem, is exactly concerned with a kind of gestalt collapse that finds significant echoes in Arctor's imaginary case. As a result of the two wounds he received to the back of his head in the first World War, the occipital lobes of Schneider's brain were damaged. Goldstein's work in this case distinguished itself with its reluctance to submit to theories of localized brain function/dysfunction and this “holism” set the course for his interpretation of the condition of his patient. As Goldstein and Gelb concluded after a battery of perception tests, what Schneider suffered from as a result of his injury was not local dysfunctions like an inability to read or an inability to speak per se, but a more “generalized inability to form sense impressions into meaningful patterns or Gestalts” (Salisbury, 2016, p. 454). To fit such a more holistic sense of impairment that is cloaked in various ways by compensation, Goldstein spoke of a loss of the “figure-ground function”, which is the ability to perceive objects in their structural relations and movements without breaking them up into atoms of data without sense (Harrington, 1996 p. 147). Importantly, in the rest of his career, Goldstein would come to associate the holistic and healthy functioning whose absence marked Schneider with a form of abstraction: the application of generalistic verbal concepts and categories to sense data. As Harrington writes, he would come to place more and more emphasis on “the capacity (generally lost in brain damage) to sort and organize experience into logical categories” such that this became a multipurpose epistemic virtue, which he called the “abstract attitude” (Harrington, 1996, p. 154).

In this sense, a real historical person like Johann Schneider with injuries received in the war and Robert Arctor, the victim of an imaginary drug called Substance D, might allow comparison. Now, although Dick has a strong sense of the value of abstraction, what is important to remember is that in his larger work he does not take the opposition of concretion and abstraction at face value and often questions “the conventional psychiatric paradigm that takes proceeding from the concrete to the abstract as a sign of mental health” (Wolk, 1995, p. 108). As Wolk reminds us, “ultimately Dick is allied

with” the characters who are struggling first hand with the consequences of some kind of atypical neurological make-up or injury (Wolk, 1995, p. 120).

This whole debate marks the novel’s presentation of its protagonist’s neurological damage, and the erosion of “the gestalt functions in the percept and cognitive systems” that affects him (Sutin, 2005, p. 203). The straightforward application of a Goldstein-like framework of opposition between abstraction and concretion also stumbles on the particular failure the novel spotlights to illustrate Arctor’s impairment: To appreciate how a ten-speed bicycle works is surely not primarily an affair of applying the right abstract categories but is an achievement that finds a specific anchor in a concrete form of perception, and this is exactly what the novel proposes.

While it ultimately functions to create a shudder at the protagonist’s declining mental condition, the scene is comical and is organized around the dopers’ “spaced out and weird” attempts to come to grips with a basic mental problem: how the seven gears that a ten-speed bike carries might translate into the ten variations of speed in question. The dopers, including Arctor, cannot come up with the scheme of two gears in the front each interacting with the five gears in the back individually, and while they are going about making tripped out suggestions about where the remaining three gears must have gone, they stage a stoners’ version of the parable of the blind men and an elephant.

It is in the interpretation of this episode that Dick introduces a conviction of his that must owe something to Gestalt theory with its insistence on the immanence of forms and an incipient abstraction to perception itself. When Arctor reasons, “it sounds to me like a cognitive fuckup, rather than perceptive. Isn’t abstract thinking involved in a thing like that?” (Dick 1991, p. 119), this is because he hopes to minimize the severity of his prognosis, as if abstraction works like a superstructural graft on an underlying system of perception that has little to do with it, and as if it would be possible to sacrifice the luxury of intelligence to save an intactly functioning perception. Arctor’s question is like an optimistic spin on the Goldstein position, where a missing abstraction *would be* the problem, with the wish that it does not reach too deeply. This is the moment where Dick makes the medical deputies the voice of the hurtful intellectual truth of it all, and they maintain that it is already an “inaccurate perception” that besets him: Instead of “two separate connecting lines between the rear gear system and the front, two simultaneous different lines,” Arctor and his friends perceive “one connective” and assimilate the front

gears to each other: "you perceived them as a homogeneity" (p. 119). In other words, for Arctor there is no longer any perception to preserve intactly either, in that he fails to make appropriate perceptual differences to start with: "tests show that the cognitive system fails because it isn't receiving accurate data. In other words, the inputs are distorting in such a fashion that when you go to reason about what you see you reason wrongly..." (p. 118). The novel's vivid image of a murk that spreads itself over social relations finds its perceptual correlative in such a diagnosis of enclounding homogeneity.

By all accounts, Dick drew from an eclectic repertory of research, and this perhaps threatened to be a problem around the novelistic integration of the neurological underpinnings of perceptual failure. As Darko Suvin bluntly stated, the eclecticism made for an impression of "pseudo-scientific gobbledegook" for some (Suvin, 2002, p. 376); but with Dick one cannot discount a self-consciously exaggerated pulpiness, and this is the way I take the novel's reference to "a toxic brain psychosis affecting the percept system by splitting it" (p. 111), the toxicity in question being that of Substance D, the novel's only pharmacological novum.

The novel's treatment of the theme of splitting and hemispheric difference in the brain deserves sympathetic reading in the light of the important research the subject has received since in the work of psychiatrists like Iain McGilchrist, whose main insight bears on the functional difference between the left and right hemispheres in terms of their attunement to analytical processes vs. the grasp of organized wholes. Overall, the balance seems to be closer to Vaughan Bell's recent evaluation that "ideas that many people might have dismissed as imaginative plot, turned out to be reasonable and well-informed scientific speculation" (Bell, 2006). As Bell informs, Dick was fascinated by "[Roger] Sperry's discovery that patients with surgically disconnected cerebral hemispheres (a treatment for otherwise untreatable epilepsy) seemed to show a dual or partitioned consciousness..." (Bell, 2006). One of Dick's main takeaways from his reading is a sense of polarity of specialization, in which the hemispheres receive the same input only to process it in vastly different ways: "Each brain works its own unique way (the left is like a digital computer; the right much like an analogue computer, working by comparing patterns). Processing the identical information, each may arrive at a totally different result..." (Dick, 1995).

What is remarkable is the way Dick's novel achieves a formal integration adequate to his split-brain theme, obtaining in pages dedicated to "cross chatter" disquieting

effects from an experimentally spliced discourse reminiscent of a writer like William S. Burroughs. His ability to evoke tenderness and compassion for his protagonist in the framework of all the information he passes to his reader about hemispheric differentiation might be a good sign that the neurologically optimal “parity” his character loses finds an exercise in his own writing, just as the pattern recognition lost by the character works implicitly in the prose’s abstract strategies. If it is true that an aspect of the hemispheric disparity may in fact be embodied in the difference between narrative and scientific discourse, then the spliced discourse is a gesture in profound harmony with Dick’s thematic pursuits: in the end, the “cross chatter” passages, and the interlaced medical and dopers’ discourse serve to pull off a feat that is reportedly difficult according to Ernst Gombrich: “The split personality is something we may be able to grasp intellectually but not emotionally” (Gombrich, 1984, p 50).

The balance of the clinical and phenomenological give depth and a sober tone to the tragic pathos of irreversibility that marks the last chapter. Dick makes sure to show from the inside how Arctor’s relation to space and time undergo drastic changes: “All the spatial relationships in the room shifted; the alteration affected even his awareness of time” (p. 225). In a terrible irony, Arctor, who becomes an undercover agent after taking flight from a comfortable family life in which “nothing new could ever be expected” ends up in the very situation he dreads, becoming unable to respond to novelty. Fulfilling the novel’s earlier intimations of the bare life-like organism under the effect of Substance D, “a reflex machine... Repeating doomed patterns, a single pattern, over and over now,” the final scenes bring in external observers to comment on the inarticulate and minimally conscious Arctor:

Maybe inside the terribly burned and burning circuits of your head that char more and more, even as I hold you, a spark of color and light in some disguised form manifested itself, unrecognized, to lead you, by its memory, through the years to come, the dreadful years ahead. [...] Mingled with the commonplace, something from another world perhaps had appeared to Bob Arctor before it was over. All she could do now was hold him and hope. But when he found it once again, if they were lucky, pattern-recognition would take place. Correct comparison in the right hemisphere. Even at the subcortical level available to him. And the journey, so awful for him, so costly, so evidently without point, would be finished. (p. 234)

Ultimately, as diagrammable as it may be, the narrative nevertheless presents an irreversible process of decline, and the true pathos and the axiological depth of pattern recognition for Dick is only appreciable on the narrative level. As pointed out by others, the elegiac tone in the parts dealing with the irreversible loss of cognitive capabilities in its protagonist is also part of a larger mourning for a lost culture to which the author felt a personal belonging.

Conclusion

This article has provided a roadmap through the nonlinear organization of the media dimension of Philip K. Dick's *A Scanner Darkly*. In interlinked case studies ranging across the various "nova" or media technologies, it showed the necessity of taking into account the logic of a prose aesthetics different than the linear order of the narrative, but which achieves its effects only by such a counterpoint. Going both ways, it is equally possible to argue the narrative needs the symbiosis of this other aesthetics and formalization working through *Scanner*, weaving technologies of recognition, detection, and vision with each other, giving them an active role in not just witnessing but actively participating in the constitution of the subjectivity of its main character.

By taking a step back from the much-frequented context of drug use or the social background of the 60s counterculture, indispensable points of reference both, the article has sought a different path into the narrative complexity, and indicated a central bifurcation: that between the world building in which various imaginary media rhyme, echo or respond to each other in highly patterned relations, and the plot's straightforward descent toward the erasure of difference and the almost clinical reconstruction of a degraded form of cognitive pattern-seeking. The deliberate nature of this dual strategy may suggest that Dick's novelistic appropriation of the machine learning notion of pattern recognition conceals much more than a wide-eyed and symptomatic affirmation of the computational.

My discussion of the string of imaginary objects and technologies depended on a version of media theory as the dedicated discourse for exhibiting the representative logic, practical affordance, and social import of media technologies, of which there are plenty in the *Scanner*: devices of machine vision and object detection, newfangled neural projectors for recreation and biofeedback, as well as those full body suits expressly crafted to render pattern recognition impossible. To address the intellectual issues

raised by these “free and wild creation” of objects, I incorporated Gestalt- and information theoretical sources.

Finally, and following on from the Gestalt precedent, I traced the philosophical tension between abstraction and concreteness in Dick’s work, situating his character’s cognitive decline in the context of an instructive divergence with the work of the neurologist Kurt Goldstein. Contrary to the hierarchical scheme in which Goldstein treats abstraction and concretion, I suggested that the only way Dick can extend cognitive credit to his devices and restore perception to the level of a mode of life, would be in a conceptual order in which perception would itself already involve something cognitive and incipiently abstract, and I enlisted the clinical passages devoted to split brain dysfunction to underscore this point. Such rehabilitation of perception in a less rigid vision of the mind is also a requirement of any affirmative valence that can be extracted from the novel’s depiction of use objects and the creation of new qualities in everyday life not co-opted by the drug enforcement context.

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