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Requiem for Detective Fiction

The Pledge: Requiem for the Detective Novel is a novel by the Swiss dramatist Friedrich Dürrenmatt published in 1958. It tells the story of a super-detective named Matthäi who is now insane and working at an isolated gas station in a small forsaken town. Years earlier, Matthäi had come to this place to solve the case of a child murder. From the start, Matthäi begins to assemble a highly detailed profile of the criminal. In effect, he solves the mystery right after taking the case. Having solved the puzzle, Matthäi then devises an elaborate trap to catch the suspect, to confirm his sure theory and close yet another case. But the serial killer never arrives. Shocked by the failure of his method, Matthäi succumbs to alcoholism. Years later, with Matthäi now insane, it is revealed to the new chief of police that the serial killer was indeed heading to the trap on the day Matthäi expected him, but, in a sudden twist of fate, died in a car accident on his way to bite Matthäi's bait.

This is a brief but sufficient summary of Dürrenmatt's requiem for the detective novel. We could even condense it into a simple description: This is a story about the logic of detection and its failure owing to its faith in the prior reliability of law-like generalities. Now I would like to make the unsurprising claim that *The Pledge* is a philosophical thriller about epistemic inquiry, in particular an old yet still open wound precipitated by epistemological scepticism. The nature of this wound is precisely what I would like to address here. But before that, let us briefly say that its nature is the problematizing and unresolved entanglement of deductive and inductive inferences in epistemological investigation, particularly that of science.

What turns Dürrenmatt's novel into a requiem for detective fiction is the way in which, in his story, the problem of induction implodes the logico-deductive framework of detective fiction from within. It has long been suggested that the traditional detective fiction—and the figure of the detective—represents a method of investigation that is, in essence, logical in the sense that it primarily

focuses on the deductive rules of thought. Inductive generalizations of observations—patterns, evidence, etc.—are only secondary in their import. They are aspects of police work rather than the defining characteristics of a true detective. Therefore, in the classical framework, the archetype of the detective is not a scientist but a logician proficient in following deductive chains of thought no matter how convoluted they might be and regardless of how far beyond salvage the crime scene is contaminated. The triumph of the detective, the solving of the crime, owes not to the forensic expertise of the detective, the sophistication of laboratory instruments, and certainly not to the competence of the police force or its information-gathering capabilities but, first and foremost, to the logico-deductive skill of the detective, whose disinterested and mechanical nature is often whitewashed by his eccentric and ingenuity-feigning charisma.

The contemporary hard realist detective genre, on the other hand, identifies itself in complete contrast to this logical-deductivist structure of the traditional detective fiction. Examples of the hard realist detective genre would be Forensic Thrillers and Police Procedural Dramas, franchise series such as *CSI* and *Law and Order*. What distinguishes the hard realist genres from the traditional form of detective fiction is the strong emphasis on the insufficiency of the logical method of analysis. Instead they underline—often to the point of ideological valorisation—empirical methods of crime solving and the technoscientific adequacy of laboratory instruments, forensics, and police profiling. A half-burnt cigarette in an ashtray is no longer a mere hypothesis in the detective's chain of deduction whose truth can be determined by procedurally exhausting all possible contradictions and incompatibilities. It is instead a subatomic field teeming with empirical footprints, DNA traces, structural patterns that reflect the muscular and sensory-motor habits of the criminal, and chemical molecules rich with geographical metadata out of which the complete profile of the culprit, their scientific image—both biological and psychological structures—can be put together. It is in this sense that the new genre replaces the frigid logical framework of the traditional detective fiction with the cold realism of science, capable of uncovering the hard naturalized and empirical facts of physical laws behind any inconspicuous sociocultural, political, or quotidian situation.

I associated hard realist detective fiction with an ideological valorisation of the empirical sciences and the efficacy of technoscientific techniques. This is

...e adequacy of empirical methods of investigation—by contemporary technoscience. In this sense, hard realist detective fiction is fully in tandem with a liberal naturalizing program whose aim is to unveil the ice-bound universe of empirical and naturalized facts behind every potential terrestrial crime scene, be it social, political, or economic. It is this uncritical affirmation of the foolproof adequacy of empirical methods, employed within an overarching naturalizing program whose limits have been left uninvestigated and undemarcated, that makes hard realist detective fiction a shining example of neoliberal capitalism's appropriation of the sciences, rather than an exemplar of the modern empirical sciences as such. New detective fiction, accordingly, derives its legitimacy from the reliability and efficacy of technoscientific methods. But the problem is that, just because something reliably works, that does not make it essentially unshakable at its foundation, nor does it confer epistemological legitimacy upon it. The efficacy of technoscientific methods in the epistemological investigation of every possible crime scene—i.e. the claim that it always works—is exactly the blind spot of hard realist detective fiction.

My contention is that Dürrenmatt's novel underlines just this precarious blind spot. It distils the superacid of epistemological scepticism that corrodes the foundations of both the traditional and new realist detective genres. It is as much a requiem for the traditional form of detective fiction as it is a requiem for contemporary hard realist forensic fiction based on the organon of true detection, science. As mentioned above, one of the main points of this epistemological scepticism that Dürrenmatt utilizes in his novel is that every genre of detective fiction is built on an epistemological system within which we are not only dealing with logical deductive procedures (which are overemphasised in traditional detective fiction). More importantly and fundamentally, we are also dealing with inductive inferences employed to derive law-like generalities, patterns, and predictions on the basis of observations or past experiences pertaining to different occurrences, clues, and footprints. Now, to the extent that any epistemological investigation has an underlying inductive component (call it the inductive profile of the crime scene), regardless of how sound the

of induction can at any time encroach upon the procedures of investigation and disrupt the anticipated resolution.

It is not that Matthäi's logical inference is unsound, nor is it that his method of profiling the criminal's features, behaviours, and predatory routines is flawed. He is as gapless as a logical machine and as effective as a high-tech forensic laboratory. It is just that the problems of induction (of singling out patterns and law-like regularities, of forming predictions and confirmations) have caught up with his methods. And it is precisely the old and new problems of induction—the corrosive substance of epistemological scepticism—to which both detective fictions and scientific inquiry qua true detection are in one way or another vulnerable.

But what are the old and new problems of induction?

First let us look at a few definitions:

1. *Deduction* can be roughly understood as a form of reasoning that links premises to conclusions so that if the premises are true, following step-by-step logical rules, then the conclusion reached is also *necessarily* true.

2. *Induction* or inductive reasoning cannot be formulated as neatly as deduction. But roughly it is a form of reasoning in which premises provide strong support (whether in causal, statistical, or computational terms) for the outcome of the inference.[1] Whereas the truth of the conclusion in deductive reasoning is logically certain, the truth of the outcome in inductive reasoning is only *probable* in proportion to the supporting evidence. Hence, as evidence piles up, the degree of supporting valid statements for a hypothesis indicate that false hypotheses are—as a matter of generalization—probably false, and in the same vein, that true hypotheses are—as a matter of generalization—probably true. But this dependency on evidence also means that inductive inference is contingent and non-monotonic. Non-monotonicity means that addition of new premises can fundamentally change the truth of the conclusion, either drastically raising or lowering the degree of support already established for the inductive outcome. It is this epistemological (rather than ontological) contingency and

1. 'My reason for using the expression "outcome" rather than "conclusion" (which might seem a more appropriate way of characterizing the terminus ad quem of an argument or inference) is that although the whole point of a first order probability argument is to generate a terminal outcome, the relation between a terminal outcome and the premises of the argument is radically different from that which obtains between what we ordinarily call the conclusion of an argument and its premises.' W. Sellars, 'Induction as Vindication', in *Essays in Philosophy and its History* (Dordrecht: Reidel, 1974), 370.

radical non-monotonicity that operates in the background of Dürrenmatt's novel and eventually throws Matthäi's elaborate system of detection, and his mental health, into disarray.

Now back to the problems of induction: David Hume formulates one of the strongest forms of the old problem of induction as follows: Inductive reasoning is grounded on the principle of the uniformity of nature as its premise—that is, unobserved events are similar to observed events, so that generalizations obtained from past observed occurrences can be applied to future unobserved occurrences. In Hume's words, 'that instances of which we have had no experience, must resemble those of which we have had experience, and that the course of nature continues always uniformly the same'.[2] But this principle itself is a conclusion reached by induction, and cannot be proved by the understanding or by deductive reasoning. It cannot be proved by deduction because anything that can be proved deductively is necessarily true. But the principle of uniformity is not necessarily true since the deductive framework admits, without logical contradiction, counterexamples for events which have not yet been experienced in which a true antecedent (past patterns of events) is consistent with the denial of a consequent (future patterns of events not similar to the past).

If the principle of uniformity cannot be proved through deduction, and if therefore the validity of induction cannot be established deductively, then it must be proved by causal-probabilistic or inductive reasoning. Yet the validity of such reasoning is precisely what we sought to prove. To justify the principle of uniformity and induction by inductive reasoning is simply question-begging, i.e. a fallacy in which the conclusion is granted for the premises. Therefore, it follows that induction cannot be proved inductively either, because this would count as vicious circularity.

In short, Hume's problem of induction boils down to the idea that experience cannot provide the idea of an effect by understanding or reason (i.e. deductive and causal inferences), but only by the impression of its cause which requires 'a certain association and relation of perceptions'.[3] Understanding cannot produce cause-effect relations or matters-of-fact since such relations are obtained by inductive generalization of observations. Matters of fact rely on causal relations

2. D. Hume, *A Treatise of Human Nature* (London: Green and Co., 1874), 390.
3. Ibid.

and causal relations can only be obtained inductively. But the validity of inductions themselves cannot be corroborated deductively, nor can they be explained inductively. Therefore, what is problematic is not only the derivation of uncertain conclusions from premises by way of induction, but also, and more gravely, the very inductive principle by which such uncertain conclusions are reached.

Argument about law-like regularities from the perspective of the numerical asymmetry of recurring evidences or corroborating observations represents a Humean version of the problem of induction. This is the idea that numerous recurring instances of the same observations in the past are sufficient for establishing law-like regularities that can in turn be used as explanatory components for a phenomenon that is in need of explanation. Such inferences generally take the form of proportional probability arguments constrained by limit functions which specify the parameters satisfying the degree of confirmation:

> Given the hypothesis h expressible in the language L capable of accommodating descriptions of space-time order and elementary number theory,
> – the proportion of n-items in the class of properties P is N/M,
> – most of the m-membered subclass of P contain a proportion of n-items which approximates that of P such that the next m individual instance $(x_{n+1}, x_{n+2}, \ldots, x_{n+m})$ are all P and the degree of confirmation of the effective hypothesis $P(x_{n+m+1})$ depending on the parameters of the system of inductive logic approaches 1 as limit, or converges on or remains greater than 0.9, or in the weakest scenario, becomes or remains greater than 0.5 irrespective of the property of the first n individuals (e.g., in the case of $0.5 \leq P(x_{n+m+1})$, if n=8, then there must be an m—let us say m=107—such that we can state that $x_9, x_{10}, \ldots, x_{10000000}$ being all green, then it is probable more than one-half that $x_{100000001}$ will also be green), S is an m-membered subclass of P,
> – therefore, it is probable that the proportion of n-items in S approximates N/M, once the above approximation is satisfied, the truth of h shall be accepted,

The acceptance of the probability-truth of h can be said to be the inductive counterpart of a deductive conclusion.

However, just because up to the present observations have been manifested in the form of a law-like regularity—in the sense that no instance of observation

within an acceptable limit has violated the pattern—this by itself does not suffice to confirm the truth of the hypothesis, nor does it suffice to establish the truth of its regularity. In other words, it is not just that, given a very long time, more pattern-violating exceptions might be observed, but rather that we cannot prove at any point the definition of the degree of confirmation even in the weakest scenario ($0.5 \leq P(x_{n+m+1})$) in the sense that, save for few instances at the beginning, one cannot establish that it is more likely than not that the next individual *m* will conform to the proportional probability of observed *n* individuals. The numerical asymmetry of supporting observations or confirming evidences is precisely that which is to be explained, the *explanandum*. Thus it cannot be posited as that which explains, the *explanans* of its own law-like regularity.

Hume's problem of induction, accordingly, challenges the validity of our predictions—the validity of the connection between what has been observed in the past and what has not yet been observed. We cannot employ deductive reasoning to justify such a connection since there are no valid rules of deductive inference for predictive inferences. Hume's resolution to this predicament was that our observations of patterns of events—one kind of event following another kind of event—creates a habit of regularity in the mind. Our predictions are then reliable to the extent that they draw on reliable causal habits or regularities formed in the mind through the function of memory that allows us to correlate an impression with its reproduction and anticipation. For example, if we have the impression (or remember) that A resulted in B, and if we also witness at a later time and in another situation that 'an A of the same kind resulted in a B of the same kind', then we anticipate a nomological relation between A and B: B is the effect of A, as the cause of which we have an impression.

However, this resolution is also undermined by the problem of the reliability of our memories. Bertrand Russell has formulated the strongest version of the problematic nature of the reliability hypothesis (of memory). According to Russell's 'five minutes ago' paradox,

> There is no logical impossibility in the hypothesis that the world sprang into being five minutes ago, exactly as it then was, with a population that 'remembered' a wholly unreal past. There is no logically necessary connection between events at different times; therefore nothing that is happening now or will happen in

> the future can disprove the hypothesis that the world began five minutes ago. Hence the occurrences which are called knowledge of the past are logically independent of the past; they are wholly analysable into present contents, which might, theoretically, be just what they are even if no past had existed.[4]

The gist of the 'five minutes ago' paradox consists of two parts: (1) memory-beliefs are constituted by what is happening now and not by the past time to which the said memory-beliefs appear to refer. In so far as everything that forms memory-beliefs is happening now, there is no *logical* necessity that what is being remembered (the reference of the memory-belief) should have actually occurred or even that the past should have existed at all. (2) There is no logical reason to expect that memory states are in one-to-one correspondence with the rest of the universe. There can be both one-to-many and many-to-many correlations between memory states and external states of affairs. Therefore what we remember as the impression of a cause, a past event, or an observation, may very well be a false memory—either a different memory or a memory of another impression of a cause. Accordingly, our knowledge of the past or of the impressions of causes can also be problematic at the level of logical plausibility and statistical improbability, which does not imply impossibility. Consequently, it is not only the justification of our predictions regarding events which have not been experienced or observed yet that face difficulty, but also our memories—whether understood as physical states or irreducible mental states—of past impressions which have shaped our regularities and habits of mind.

The Humean problem of induction is further sharpened into new riddles or predicaments of induction by Nelson Goodman in his work *Fact, Fiction and Forecast* (1955), and then reformulated in the most radical way by Hilary Putnam in *Representation and Reality* (1988):

Let us imagine that before time *t* (e.g., a hypothetical future time, say 2050) we have observed many emeralds recovered from a local mine (or in Goodman's examples, well-watered grass) to be green, and no emerald to be of another colour. We thus have the following statements based on successful observations,

4. B. Russell, *The Analysis of Mind* (London: George Allen & Unwin Ltd, 1921), 159–60.

Emerald a is green, emerald b is green, etc.

Such evidence statements then support generalizations of the kind,

All emeralds are green (not just in the local mine but everywhere).

Here the predicate *green* can be said to be a projectable predicate or a predicate that is confirmed by its instances (emerald *a*, emerald *b*, etc.) and can be used in law-like generalization for the purpose of prediction.

Now let us introduce the predicate *grue*. An emerald is grue provided it is green and observed *or* (disjunction) blue and unobserved before the year 2050, i.e. if and only if it is green before time *t* and blue afterwards. Here, the predicate grue does not imply that emeralds have changed their colour, nor does it suggest that, in order for emeralds to be grue, there must be confirmation or successful observation of its instances. We call such a predicate a non-projectable or grue-type predicate.

In the case of grue emeralds, we then have non-projectable generalizations,

Emerald a is grue, emerald b is grue, etc.

The generalizations 'All emeralds are green' and 'All emeralds are grue' are both confirmed by observations of *green* emeralds made before 2050. Before 2050, no grue emeralds can be observationally—i.e. inductively—distinguished from any green emeralds. Hence, the same observations support incompatible hypotheses about emeralds to be observed after *t*—that they are green and that they are blue. This is called Goodman's grue paradox. The paradox shows that there can be generalizations of appropriate form which however are not supported by their instances. So now the question is: What exactly is the difference between innocent generalizations like 'All ravens are black' which are supported by their instances, and grue-type generalizations which cannot be so supported by their instances, but nevertheless are equally sound? Or, in other words, how can we differentiate between healthy law-like generalizations based on projectable predicates and grue-like (or not law-like) generalizations based on non-projectable predicates? This is Goodman's new riddle of induction, which

asks why it is that we assume that, after time *t*, we will find green emeralds but not grue emeralds, given that both green and grue-type inductions are true and false under the same set of conditions such that,

- Based on the observations of many emeralds, a miner using our common language will inductively reason that all emeralds are green. The miner forms the belief that all emeralds to be found in the mine or elsewhere are and will be green before and after time *t*.

- Based on the same set of observations of green emeralds, a miner using the predicate 'grue' will inductively reason that all emeralds observed after time *t* will be blue, even though thus far only green emeralds have been observed.

Goodman's response to the paradox is as follows: the predicate green is not essentially simpler than the predicate grue since, if we had been brought up to use the predicate grue instead, it could very well be the case that grue would no longer count as nonsensical or as more complex than the predicate green by virtue of being green and blue. In that case, we could use predicates grue and bleen (i.e. blue before time *t*, or green afterwards) just as we now use the predicates green and blue. An objection can be made that, unlike green, grue is artificially defined disjunctively, and that therefore the natural predicate green should be preferred. Per Goodman's response, there is no need to think of grue and bleen-type predicates as disjunctive predicates. They can easily be thought as primitive predicates such that the so-called natural or simple predicate green can be defined as *grue if observed before time* t *or bleen thereafter*. Hence even the predicate green can be shown to be disjunctive. To this extent, the hypotheses we favour do not enjoy a special status because they are confirmed by their instances but because they are rooted in predicates that are entrenched in our languages as in the case of green. If grue and bleen were entrenched, we would have favoured hypotheses of their kinds.

If projectable and non-projectable predicates are equally valid, then what kinds of constraints can we impose on a system of inductive reasoning that will exclude grue-type non-law-like generalizations? Goodman's response is that no purely formal-syntactical constraints can be sufficient to distinguish projectable from non-projectable predicates. The only way to tell apart healthy green-like

from grue-like properties is in terms of the history of past inductive inferences. The reason we use green and not grue is because we have used green in our past inductions. But equally, we could have been using the predicate grue rather than green so that we could have now justified reasons to use grue and not green.

In his radical version of the new problem of induction, utilizing Gödel's incompleteness theorem, Putnam adopted and refined this argument to show that inductive reasoning cannot be formalized—i.e., that there are no syntactical or formal features of a formalized inductive logic that can be used to make the aforementioned distinction.

Now since the epistemic traction of the human mind on reality ultimately comes down to the validity of induction, the unformalizability of induction implies that the mind—whether that of a detective or a scientist—can never even provide a formal and hence modern scientific (namely, mathematized) account of itself. In other words, according to Putnam, 'if human minds have every conceivable computational description, it makes no sense to take the realist line that human beings have a computational description, even though we can't discover it'.[5] The claim that the human mind has a particular computational description or formal model lacks explanatory power since such a computational description would fall under Gödel's incompleteness theorem in the sense that there is no way to correctly distinguish between the computational description of the mind and any other computational description. Therefore, any inductive prediction made by such a computational description can be verified save for one: that it is the correct description of the mind. Whereas Hume and Goodman employ the problem of induction to challenge the predictive-inductive descriptions of the external world and events, Putnam reinscribes the problem of induction at the level of the inductive mind itself: Just as induction does not say anything about its nature, the computational mind does not reveal anything about its nature either.

Since every method of epistemic inquiry has to have an inductive component, this poses a serious problem for the ultimate legitimacy of our epistemic inquiry. Putnam's resolution, in the vein of Hume, is that even though induction cannot be formalized, and can reveal nothing about its nature, we ought to trust our intuitive and ordinary inductions, for they are the result of evolution (the evolution of memory, language, etc.). What distinguishes our ordinary inductions from grue-type induction is their elegance or simplicity. But resorting to the principle

5. J. Buechner, *Gödel, Putnam, and Functionalism* (Cambridge, MA: MIT Press, 2008), 27.

of simplicity or Occam's razor is not sufficient to license our ordinary inductions either, since the principle of simplicity is only a contextual and pragmatic matter of favouring one induction over another. Put differently, there is nothing inherently simple about the world or mind. If simplicity was sufficient to distinguish projectable from non-projectable predicates, ordinary inductions from complex grue-type inductions, false theories from true theories, then, as Adolf Grünbaum has detailed, there would be no reason to endorse the Darwinian theory of life over the far simpler theistic theory of creationism.[6] It is in this sense that the radicalization of the problem of induction can be understood as the razoring of Occam's razor.

Moreover, the Putnamian appeal to evolution as a justification of our ordinary inductions—just like Hume's resolution—simply defers the problem of induction to a lower level, sweeping it under the carpet of evolution. To trust evolution in order to trust our inductive capacities so as to trust the legitimacy of our epistemic inquiries is only an act of faith in the blind god of evolution, whose gift of inductive reliability should not be mistaken for *our* epistemic birthright. The cognitive lesson to be learned here is that only by distilling the superacid of epistemological scepticism can we rescue the legitimacy of our knowledge and the coherency of critical realism. Epistemology without scepticism about the conditions of epistemic possibility is predisposed to dogmatism, and scepticism without the rational ambitions of epistemic inquiry is doubt as debilitation. In the end, the true detective is not someone who investigates the state of affairs by being sure of the reliability of the methods of investigation, but one who brings the reliability of the method of detection under the scrutiny of *skeptikos* or thoroughgoing investigation. As Plato reminds us in *Meno*, the fact that there is doubt is because there is a coherentist web of knowledge as its condition of possibility. And where there is knowledge as a continuous web of truth-candidates—rather than a collection of discrete facts or canonical given truths—methodological scepticism is an essential component of knowledge that ought to be embraced. A realism that neither instigates the cognitive provocations of epistemological scepticism nor is up to the task of taking on its challenges is not worth its name.

6. A. Grünbaum, 'The Poverty of Theistic Cosmology', *British Journal of Philosophy of Science* 55:4 (2004), 561–614.