

INTERDISCIPLINARY DIALOG THROUGH DOCUMENTARY FILM

by

Katherine Elizabeth Webbink

A thesis submitted in partial fulfillment
of the requirements for the degree

of

Master of Fine Arts

in

Science and Natural History Filmmaking

MONTANA STATE UNIVERSITY
Bozeman, Montana

April 2012

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Dr. Lucia Ricciardelli

Approved for the School of Film and Photography

Dr. Robert Arnold

Approved for The Graduate School

Dr. Carl A. Fox

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DEDICATION

To the books whose backs were broken in the process of writing this thesis: I apologize to all of you, but hope you can find solace in the far more advanced state of spinal repair in book arts relative to that of bio-medical arts.

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ABSTRACT

Documentary filmmaking and experimental psychology face similar uncertainties in attempting to accurately characterize their subjects, but their methods for addressing these uncertainties often differ dramatically. Where experimental psychologists generally ascribe to scientific realism, searching for the “clearest” explication of a subject by employing scientific methods, documentary filmmakers follow any number of personal interpretations of what might best characterize an individual or social story. This philosophical contrast between filmmakers and psychologists parallels the clash between postmodernists and scientific realists. The “Science Wars” of the 1990s were a series of miscommunications between these two schools of philosophy, and there remains to be reconciliation, or at least clear dialog, between proponents of the two views. This thesis compares experimental methods in documentary film and in psychology, and proposes the exploration of why the two fields parallel as well as differ from each other in their methods of accommodating uncertainty. I propose that such an exploration of contrasts among experimental methodologies in film and psychology can offer an alternate route to dialog where verbal dialog has previously failed, as between postmodernists and scientific realists.

INTRODUCTION

Documentary filmmaking and experimental psychology are two fields that often face similar heuristic limitations and epistemological uncertainties. Of interest here is a comparison of how filmmakers and psychologists strive to accurately observe the ideas or cognitive processes inside a mind—to honestly portray worldviews that are multifaceted, constantly changing, and, in many ways, “unobservable.” To describe a subject’s worldview in terms of documentary film or psychological study is inevitably to construct new worldviews, rather than replicate the subject’s own worldview. Nonetheless documentary films and psychological studies persist in attempting to truthfully represent the thoughts and thought processes of their subjects. In so doing, these two fields have developed parallel methods of trying to recognize the limits of their assumptions while still allowing for meaningful observation of their subjects’ worldviews. Were these two fields to hold a deeper philosophical dialog with each other, not only might they find much to exchange between their methodologies, but they could also offer new routes of dialog for interdisciplinary discourse. It therefore seems useful to examine the parallels and contrasts in how they cope with those limiting assumptions.

In this study, I will examine a route for further constructive dialog between postmodernism and scientific realism, considering their past failures. This route will comprise alternative dialectical methods to the literal verbal methods currently dominating formal academic communication. Specifically, this route will suggest employing film to explore the relationship between the assumptions of the postmodernist and realist perspectives. In film, the participants of a dialog express their views through

more vivid rhetorical devices such as irony and metaphor, which seem to “not” be valid (or at least not “equally” valid) among the respective bodies of academic literature frequented by postmodernists and scientific realists. I suggest that the comparison of methods in documentary filmmaking and psychology functions as a useful bridge on which to develop an alternative mode of interdisciplinary communication between postmodernism and scientific realism where verbal dialog has previously failed.

One documentary that offers insight in terms of recognizing its own assumptions is director Michael Apted’s *Up* series. Over the course of producing the series, Apted has gradually recognized flaws in his (and original director Paul Almond’s) initial presumption that by interviewing a group of children at 7-year intervals throughout their lives, the series could objectively document and test predictions of how mobile or immobile one can be in society. Social status and overall satisfaction with one’s life are not so easily or absolutely measured, and some of Apted’s subjects have demonstrated increased frustration with what they feel is his misportrayal of their lives. Apted has responded in successive episodes of *Up* by becoming increasingly self reflexive, acknowledging on screen the influence of his own perspective in the characterization of the *Up* participants.

Regarding the occurrence of similar realizations in behavioral psychology, researcher Sara Shettleworth (2010) recounted the experiences of a group of cognition researchers who faced a similar issue to that of Apted and Almond. Researcher Daniel Povinelli and his colleagues (1990) set out to study whether chimpanzees do or do not possess “theory of mind”—the ability to assess what other individuals might or might not

know. They designed an experiment to test whether an observer chimpanzee could recognize that if a human experimenter hid food out of its view, in another chimpanzee's cage, only an individual who was present while the human was hiding the food would know exactly which compartment contained the hidden food. When asked where the food was hidden, the individual who had been present should know and select the correct compartment, and therefore, if acting based on theory of mind, the observer chimp should select the same compartment.

Upon running the experiment, it initially appeared that observer chimpanzees were able to distinguish between individuals who had been present and knew where the food was versus those who could only guess because they had entered the cage only after the food was hidden. However, instead of directly concluding that chimpanzees possessed "theory of mind," Povinelli and his colleagues recognized the possibility that observer chimpanzees might instead be basing their choices on associative learning ("if individual X was present when food was hidden, then copy X's choice") rather than working more completely through "if X was present, *X knows where the food is*, therefore copy X's choice." Povinelli's group and other research labs designed follow-up experiments to try to distinguish more clearly between observers' choices based on theory of mind rather than on associative learning, but a definitive test has yet to be designed. In part, this is because it is unclear what behavioral criteria should entail "theory of mind."

Comparing this line of psychological research with the previously described *7-Up* documentary film series, it would seem that nonfiction filmmaking and psychology are

alike at least in how they define one type of faulty assumption: an inadmissible *mismatch* between the director's/experimenter's interpretations and the subject's behavior or stated thoughts. However, filmmakers and psychologists differ in how they act after recognizing such a faulty assumption. Relative to Povinelli's research, the *Up* films and their director seem to demonstrate the more drastic philosophical change, relinquishing the claim of objectively portraying worldviews and instead acknowledging the influence of Apted's own perspective. By contrast, Povinelli sustains his pursuit of an objective portrayal even after realizing a flaw in his initial approach. Arguably, he and his colleagues do in fact acknowledge the subjectivity of their perspective, but in a different academic "language"—specifically, by acknowledging "invalid" aspects of their original experimental design within the framework of psychological and statistical theories. And it is such a language difference that reflects the deeper matter of disparate philosophical underpinnings underlying documentary filmmaking and psychology.

For documentary, there is no standard measure of a filmmaking method's "validity," if the term validity is taken to mean the resulting story structure's "soundness" in some sense. The story structure of the *Up* series might lead different viewers to see the films as more or less logically sound or acceptable for any number of reasons, logical as well as emotional and aesthetic. For instance, while the footage Apted incorporates into his films is strictly from interviews and from following the film's subjects through their daily routines, he could just as "validly" incorporate more metaphorical types of footage—reconstructions of subjects' significant ideas or sentiments that were not covered in previous episodes. Employing metaphorical imagery could alter the *Up*

series' style of rhetoric without necessarily making its conclusions any less critical or "truthful" regarding which factors influence an individual's mobility within societies.

In contrast, validity for Povinelli's experimental method is more rigidly dictated by theories and principles from statistics, psychology, and other areas of science.

"Logical soundness" for Povinelli refers to technically defined "internal" and "external validity" which respectively define the quality of an experiment based on how well it was designed (*e.g.*, how well variables were measured, how it avoided confounds and faults), and based on how well the experiment can be applied or generalized to broader theory.¹ However, as Povinelli and likely every researcher in recorded history has demonstrated, there is no "confound-free" or "perfectly valid" experiment. When designing experiments, the very limits of human foresight and imagination necessarily factor into foreseeing and imagining "themselves;" those limits of imagination tend to be the confounds that can invalidate a given experiment.

However, this is not to suggest that experimental research is a useless endeavor, or completely unable to bring "new evidence to light" or new ideas forward. On the contrary, attempts to recognize and remedy "faulty" assumptions in the middle of an experiment are an integral part of refining methods if not theory, whether for filmmaking, psychology, or otherwise. The type of flaw encountered by Apted and Povinelli in their respective works raises the question of "how often do faulty assumptions go *unrecognized*?" It seems all too easy for researchers to miss a crucial cue or alternative

¹ Campbell and Stanley (1963) defined 12 specific flaws and factors that affect an experiment's internal and external validity. Their definition is by no means absolute and final; they have added to their own definition, and furthermore, experiments that can be considered "flawed" in a scientific sense might pass all of the criteria set by them or colleagues. Nonetheless, if an experiment fails to meet any of the validity criteria, scientific researchers will most likely deem it "invalid."

explanation (*e.g.*, Povinelli could simply have never realized the alternative explanations that his data failed to reject), or to merely *confirm* expectations rather than validly and rigorously *test* expectations against observations (*e.g.*, Apted could have written off his subjects' objections to his interpretations as the logical outcomes of appearing in a critical light on film). In this sense, the matter of how often faulty assumptions go unnoticed is a disturbing question.

In another and perhaps no less disturbing sense, though, the reflexive questioning itself may be based on a faulty assumption: that there is such a thing as a faulty assumption in some absolute sense. Given the existence of cliffs in the world and our ability to mistakenly walk off of them, it is justifiably cautious to assume that faulty assumptions do exist somewhere out there, but whether it is possible for researchers to “accurately” identify metaphorical, problematic cliffs within particular theoretical frameworks is the issue. Regarding this uncertainty and how to cope with it, the broader philosophical contexts related to documentary and psychology have been home to debates on reconciling this epistemological uncertainty—questions of “can we know what we know?” and “if so, how?” The debates have carried on for millennia, but in the past half-century, two predominant schools of philosophy, postmodernism and scientific realism, seem to have arrived at two very different ways of describing the uncertainty in attaining “absolute knowledge.” I will argue that while both philosophies have certain merits regarding more precise definitions of “knowledge,” their attempts at holding meaningful interdisciplinary dialog with each other has yet to succeed.

A major failure in the attempts to hold a dialog occurred in 1996, when physicist Alan Sokal published a paper on the social construction of quantum gravity in a Postmodernist journal *Social Text*, and announced simultaneously in another journal *Lingua Franca* that the paper was a sham. Sokal was at once cheered and jeered by the opposing sides of a failing discourse among academics. So ensued the “Science Wars,” in which the ancient question of “what *should* constitute knowledge?” was debated by scientific realists and postmodernists, each side often fervently talking past the other.

A more definitive origin for the science wars and this iteration of the “what is knowledge” debate is perhaps the early 1980s, when many philosophers of science (scientific realists, for the most part) were still engrossed in the demarcation problem of what is and is not science (Popper, Kuhn, and Lakatos), and postmodernists were describing (and furthermore condemning) “metanarratives” as the oppression of micro-narratives, or independent, individual styles of thought and communication (Derrida, Foucault, Lyotard). While very relevant to each other, there seemed to be little direct dialog or even acknowledgement of ideas between these two groups of thinkers. To the dismay of postmodernists, scientific realists seemed to declare science to be the only form of human knowledge, with all else—religious, artistic, and other forms of thought—comprising “sophistry and illusion,” as Lakatos stated, quoting Hume in a 1973 lecture on “Science and Pseudoscience.” And to the dismay of scientific realists, postmodernists seemed to be reducing an increasing number of scientific ideas (particularly, the reinterpretation of the “theory of relativity” from physics to mean that reality is relative in other poetic senses, as derided by Sokal in *Intellectual Impostures*) to the level of “social

constructs” (Latour and Woolgar, 1979). The two groups failed to clarify the differences between their frames of reference. Where Postmodernists were attempting to understand how and why “the consensus of experts” is sufficient reason for scientists to follow rules, which themselves dictate the necessity of more concrete reasoning (Lyotard, 1984), many scientists perceived a gross misinterpretation of their theories and methods, attributable to “an apparent decline in the standards of intellectual rigor” in the humanities (Sokal, 1996).

Ahead, I will contrast some of the philosophies that guide documentarians and psychologists. I will relate some of the historical development of their views to broader philosophies that grew across other areas of science, academia, and other areas of society. This history sheds some light on disconnections between scientific realists and postmodernists, and proposes an alternative way for them to examine differences in their evolving frames of interest.

EPISTEMOLOGIES OF PSYCHOLOGY AND DOCUMENTARY

Previously, as a student in the sciences, I was immersed in a scientific realist philosophy, believing the phenomena that my peers and I were studying existed in a knowable, objective reality. In our experiments, we were urged to beware of preconceived notions, and not to leap to unsupported conclusions. However, as students in a particular branch of experimental psychology, we were also exposed to a degree of constructionism through our primary phenomena of interest, the theoretical constructs of “learning” and “memory.” Relative to other branches of science, more of our experimental efforts were directed towards “testing tests,” rather than simply assuming that we were directly testing whether a phenomenon did or did not exist in a given way. We were constantly wondering which unforeseen confounds were slipping by, possibly warping how we intended to view and measure our subjects.

Documentary filmmakers frequently focus on similarly vague phenomena, but unlike scientists, they do not necessarily see vagueness and openness to interpretation as problematic or in need of “solving.” Metaphors, with all of their ambiguity and interpretability, are welcome in the storylines and images of films; less so in the communication styles of formal scientific journals. However, to say “metaphor is welcome in documentary” is a gross generalization. Regarding “who” is doing the welcoming, documentary filmmakers are not a cohesive group of artists, nor are their audiences a single-minded mass that knows precisely what a filmmaker intended. Documentary filmmakers who take a journalistic approach to attempting to portray events as “accurately” as possible will try not to abstract those events in ways that

nonfiction filmmakers employing more poetic modes of documentary might.

Furthermore, the viewers of those respective documentaries might (or might not) be cued to expect “journalistic” versus “poetic” portrayal of events.

Those filmmakers who have moved away from claiming “objectivity,” as it is claimed in observational or expository modes of documentary, have embraced alternatives to “journalistic” styles of accuracy. Their alternatives consider the long philosophical debate over “what defines truth.” While the photographic image was at first seen as a break through in the ability to “objectively” or “truly” capture moments in time, the notion has been deconstructed by suggestions that even photographic images can reflect ideologies, and furthermore, any photograph is the culmination of a series of compositional choices, hardly “objective.” Viewing documentary film in the light of “unavoidable subjectivity” encouraged more vividly personal characterizations of subjects. By acknowledging the influence of directorial choices and perspectives on how audiences perceive the portrayed subjects, self-reflexive and postmodernist filmmakers frame their films in such a way that shows they recognize their own perspective and would consider it dishonest for an individual to claim an “objective” view on a subject.

But how can a scientist cope scientifically with the conundrum of the limited individual anthropomorphic perspective? Termed “human error” and “bias,” this perspective is supposedly controlled, balanced or randomized out of experimental designs. However, while researchers employ statistical methods to control their experiments, scientists can frequently find themselves in need of epiphanic interpretations of surprises in their data—the so-called “Black Swans” discussed later.

Certainly, the process of interpreting data can be logical, but in the cases of unforeseen confounds in experiments and unforeseen patterns of data, the process of figuring out or even just *noticing* the unforeseen seems more a matter of chance, not entirely rational. In these cases researchers are still to a large degree unable to explain how or why they arrive at (or completely miss) the break-through thought.

In the effort to explain *how* (or *whether*) science progresses, many ideas have come and gone in the past century within the school of scientific realism.² A popular view held by philosophers like Ludwig Wittgenstein and Rudolf Carnap in the 1920s Vienna Circle, was the inductivist view that scientific theories gain support and grow by amassing ever more observations as evidence. However, many philosophers later found this view problematic in light of Karl Popper's suggestion in the 1930s of "falsificationism." Popper explained that no matter how many observations are made, a scientist cannot prove a theory "true" because eventually an observation will probably (or inevitably) be made which contradicts, and thereby falsifies, the theory. For example, even after observing millions of white swans, the theory that "all swans are white" will be falsified by the observation of just one non-white swan. Falsificationism proposes that rather than growing by amassing observations, scientific theories grow more significantly through falsification—through finding the conditions that currently contradict the theory's explanation. This seemed reasonable until the Duhem-Quine thesis of the 1950s

² It is of course an over-simplification to suggest that the history of entire lines of philosophical theorizing is this linear. Inductivism remains a reasonable and somewhat widely accepted view of "how science progresses." I have based this summary on Alan Chalmers's more thorough account in *What Is This Thing Called Science*.

pointed out that even such “falsification” is suspect because the experimental conditions in which a hypothesis is falsified rely on assumptions, which can themselves be false.³

By the 1960s, Thomas Kuhn and Imre Lakatos were proposing larger-scale, more complex models to explain the structure and evolution of scientific research “paradigms” and “programs.” They described science as series of theories and associated, auxiliary methods and hypotheses, rather than simply focusing on experimental tests of hypotheses out of their larger context. Lakatos proposed that a research program is more scientifically successful if it can *a priori* predict more novel facts than another program. However, Kuhn pointed out that scientists might opt to study within one or another paradigm for reasons outside of scientific logic, which can make the long-term view of a scientific enterprise’s “success” difficult to explain from standpoints that only take into account the scientific logic without the broader historical or social context. Consequently, the epistemological question of “how do we know if we know?”—the underlying logic of scientific theories and associated methods—becomes more difficult to explain solely within the framework of scientific theories themselves. Explanation requires consideration of individual scientists’ thought processes within the broader contexts of their environment; in other words, explanation requires performance consciousness—consciousness of the social, political, and other factors⁴ in the scientists’

³ For example, “objects dropped from heights fall straight back to earth, therefore the earth is not moving in space” is now seen as a falsification claim based on faulty assumptions about momentum and other laws of motion.

⁴ Here, “other factors” relate to the concept of “*umwelt*,” a term defined by biologist Jakob von Uexküll approximately a century ago to describe the unique sensory (and consequently unique cognitive) experience of an individual organism in its environment. Given the variation in “styles of thinking” from one person to the next, presumably there are factors at the psychological individual level (*e.g.*, preferences for learning one way versus another due to their personal cognitive inclinations or

environments. Consequently, philosophers of science have reason to share thoughts with philosophers of broader aspects of thought, life, and society.

Postmodernists, as one such group of philosophers of “broader” topics, have produced a body of literature that leaves the realm of solely describing how knowledge is formed, and delves into prescriptive questions regarding whether knowledge *should* be formed in one way versus another. In *The Postmodern Condition*, Jean-Francois Lyotard suggested that in society there should be no single “dominant” set of rules for how to form knowledge, and no forced “consensus.” Instead, Lyotard proposes the tolerance of a plurality of rule sets, and “paralogy,” or the search for dissent (rather than for consensus). Viewing science as one of many ways to search for knowledge, next to arts, ethics, and other routes, Lyotard and other postmodernists were proponents of allowing for more “open” discourses among these searches, meaning more open access to information, rather than the silencing “terror” (Lyotard’s term) of alternative and individual perspectives.⁵

Kuhn’s developments in philosophy of science, specifically his incorporation of social factors in an explanation of scientific processes, were embraced by postmodernists as an acknowledgement of their push for discourse among many perspectives. However, at this point in the 1960s, the bridge between postmodernist sociologists and scientific realist epistemologists began to weaken rather than strengthen. The discourse regarding “how *should* knowledge be formed” that was occurring among sociologists seemed to

inhibitions) as well as at social and political levels, which may be relevant to understanding why a particular person would come to hold a particular set of thoughts and beliefs.

⁵ Oddly, this push for open discourse seemed restricted to discourses within academia and avant-garde art—not so much in society at large, which it seemed intended to benefit.

focus on describing effects of societal ideologies on science, and effects of “scientistic” ideologies—those which exalt science above all other forms of knowledge—on society. A groundbreaking piece of research along these lines that incorporated the individual thought processes of researchers who were in the act of researching was Bruno Latour and Steve Woolgar’s sociological⁶ study of Roger Guillemin’s endocrinology research group at the Salk Institute. They reported their findings in *Laboratory Life* (1979), and in the post-script to the book’s second edition, Latour derided the existing ocean of epistemological studies which examined the same scientific research processes. According to Latour, “epistemology [...] which holds that the only source of knowledge are ideas of reason intrinsic to the mind, is an area whose total extinction is overdue.” This was an inflammatory charge, and while it is perhaps a fair characterization of the “scientistic” point of view held by many scientific realist epistemologists at the time, epistemology as a *method* cannot be characterized as holding such an ideology. Furthermore, Latour’s statement suggests a presumption that his own anthropological approach, naïve to the details of a scientific theory, is itself superior to methods for studying the construction of scientific theories from a less scientifically naïve standpoint; this simply perpetuates the problem of prioritizing one perspective over another.⁷

⁶ “Anthropological” might be a better description of Latour and Woolgar’s approach to studying the research group and how its members made decisions in the course of their research, but their study has left its mark on the sociological field of Science of Technology Studies.

⁷ The squabbling over which method is “best” is reminiscent of disagreements among behavioral biologists in the early 20th century. Misunderstanding frequently arose when researchers confused “proximate” and “ultimate” causes of a behavior. For instance, arguing that a bird sings a particular song *primarily* because females prefer that song rather than *primarily* because a bird learned that song as a chick. The two sides of such an argument are not “opposing sides” but simply two necessary parts of a larger whole. This “larger whole” comprises ethologist Niko Tinbergen’s “four questions,” based on Aristotle’s four causes; to understand why a bird sings a particular song or why a scientist thinks a

Epistemological methods of asking “how *can* we know” at the individual level simply offer another mode of exploring how a scientist can cope with the subjectivity of inescapable human perspective.

Uncertainty (regarding accurate portrayal of phenomena or constructs) is common to any research endeavor, scientific, artistic or otherwise. Beyond the statistical controls employed within any experiment is always a larger theoretical framework where the anthropomorphic perspective remains, fixed in the very languages used to initially conceive of and construct a theory. Regardless of how technical and rigid that language becomes, it is shaped “anthropomorphically.” Scientists rarely discuss what this implies for the meanings of “truth” and “accuracy” in science within labs, which seems to leave those details for the philosophers and historians to look upon later, away from the immediacy of scientific theorizing and experimentation. Should the process of scientific research be so detached in space and time from the process of trying to understand scientific research?

DIALOG BETWEEN SCIENTIFIC REALISM AND POSTMODERNISM

The difference in how postmodernists and scientific realists perceive “accurate” or “relevant” data reflects why these groups often talk past each other, and remain philosophically disconnected in a significant way. While my cognitive science peers and I recognize that the cognitive processes of learning and memory are “constructs,” we were convinced that their construction by a scientific method and occasional statistical validation allowed them to reflect some “beyond-the-individual” perspective. Currently, I maintain that conviction to some extent because, even if an absolute objective reality does not exist, statistical analyses seem to afford a non-intuitive perspective, and thereby a less subjective one⁸.

Definitions of what constitutes the "truth" about an idea or type of cognitive process and how best to portray that truth varies from one documentarian to another. In contrast, psychologists generally share a unified ideology that there is one objective truth, approachable through cautious experimental design and "clear communication." The psychologists I am referring to here are experimental psychologists who study theories of learning, memory, and other aspects of cognition through materialist traditions of behavioral science in particular; granted, the line between those cognitive phenomena

⁸ I admit, it is a problematic view. Even the “randomness” in randomly selected samples is based on human-selected algorithms. Still, statistics seem to offer a way of standardizing the variation between individual perspectives.

which scientists think *can* be studied materialistically⁹, and those which they think *cannot* be studied materialistically seems progressively fuzzier over time.

For a postmodernist, basing an objectivity/subjectivity distinction on a detail such as “statistics” misses the point--that even statistical tests must be chosen, and therefore reflect a subjective preference. Not exactly conversely, but within the intellectual space of a scientific idea, the personal qualities of an individual researcher are generally not the phenomena of interest, and are therefore irrelevant to understanding a theoretical framework for its own sake. This juxtaposition is meant to illustrate the disconnected dialog between the postmodernist, thinking in a social context, and the scientific realist, thinking within a scientific theoretical framework, detached from its social context. There are numerous instances in which interdisciplinary communication has failed not only because of un-communicated assumptions, but in particular because of unrecognized differences between frames of reference.

Perhaps these disparities cannot be resolved through formal academic dialog as it is commonly defined and practiced. The failure of past dialogs as demonstrated by Sokal in 1996 suggests the need for alternatives to formal discourse. Of course, many alternatives already exist. As one example of a dialog in which frames of reference actually *were* more clearly recognized, I will highlight the dialog that occurred between Imre Lakatos and Paul Feyerabend in the early 1970s. In *For and Against Method*, Lakatos and Feyerabend demonstrated a rare early example of rational discourse between

⁹ In the early 20th century, experimental psychology went through major changes, from incorporating the study of metaphysical phenomena (as in Freud’s dream analysis, and the “dualist” belief in a mind separate from the body) to focusing more strictly on observable, physical behavior. This “behaviorist” movement was an attempt to align psychology with the “materialism” of other sciences that focused on material, or physical, phenomena.

scientific realist and postmodernist views. Although their dialog never reached a resolution, it illuminated ways in which misunderstandings between the two philosophies can be clarified--perhaps simply and most importantly by way of lending a “sympathetic” ear.

Lakatos and Feyerabend conceived of *For and Against Method* as a dialogue in which they would each expound their respective philosophies of science and knowledge. Lakatos proposed that a universal, rational scientific method does exist, while Feyerabend argued that science comprises no such thing. While the two philosophers might be characterized simply as holding opposite viewpoints, the shape of their dialogue also reflects other distinctive differences in their philosophical backgrounds and approaches. Paul Feyerabend wended through academia, ultimately attracted to a Postmodernist mentality and beyond (to Dadaism and anarchism, for instance) while Imre Lakatos began his academic career in mathematics, and tended towards scientific realist explanations of scientific methodologies. For both, World War II was a serious disruption, with Feyerabend ending up as a Nazi officer on the Eastern Front, and Lakatos relinquishing his Jewish heritage and delving into Hungarian politics—a career path that ended with the Soviet invasion of Hungary in 1956.

Somewhat miraculously, both Feyerabend and Lakatos survived the mid-century turmoil and ended up studying under renowned philosopher Karl Popper at the London School of Economics in the early 1960s. However, they each came away with a very different outlook on philosophy and science. While Lakatos took a somewhat conventional “realist” approach to building on Popper’s falsificationist theories with his

own ideas of how scientific research programs progress and degenerate, Feyerabend soon lost faith in the ability of Popper's views, as well as those of scientific realism, to explain scientific process. To Feyerabend, characterizing the scientific method as "anything goes" rather than "rational," "far from being undesirable, changes science from a stern and demanding mistress into an attractive and yielding courtesan who tries to anticipate every wish of her lover." (1970)

By 1970, Lakatos made a friendly challenge for Feyerabend to write an account "against method," to which Lakatos would write his own "for method" reply. Over the next few years, the two corresponded while building their respective halves of the dialog, but it would never be completed. Lakatos died suddenly in 1974, and Feyerabend was left to publish *Against Method*, in his words, as a "wicked" letter without the "wicked reply" he had anticipated from his friend. However, the body of correspondence between the two had been collected in the London School of Economics, and in 1999, from this collection Mateo Motterlini published a brief "reconstruction" of a hypothetical spoken dialog between Lakatos and Feyerabend. Motterlini describes the letters as revealing "how much the two friends relished the flavor of philosophical controversy, regarding it as the antidote to that conformism so widely present in the world of academics, educationalists, specialists, and professional politicians." The friendly antagonism observable in their actual correspondence, where Feyerabend frequently ridicules Popper, is likewise evident in their dialog and correspondence, as when Feyerabend sends Lakatos a picture of a snarling werewolf beast, and teases the "primitive" views of

Popper and “popperian” sympathizers such as Lakatos in a note below the picture: “A paleopopperian reading AM¹⁰.”

All of this might seem like sentimental backstory, unnecessary character detail, but I include it here to make a necessary point. As John Preston notes, at least regarding Feyerabend, “[He] was not the kind of philosopher whose personality could easily be divorced from his views, either by sympathizers or by opponents.” “Wicked” teasing and humorous rhetoric were not superficial to the dialog between Lakatos and Feyerabend; they were integral parts of how the two related to the world. At the time (and long after), there tended to be downright vitriol between those who described the scientific processes as rational, and those who did not. Certainly Lakatos and Feyerabend themselves often seemed to express extreme animosity towards their other respective intellectual opponents, as when Lakatos helped an open debate on the validity of IQ testing explode into a shouting match.¹¹ Likewise Feyerabend, having moved from labeling many of his critics as “incompetent professionals” to “professional incompetents” in his book *Science in a Free Society*, vied posthumously for the title of “worst enemy of science” (although this might have been intended, as well as taken, as a semi-jocular compliment).

Did Feyerabend and Lakatos, both blurring the boundaries between theory and personality, represent “postmodernist academics”? At least on the social scale of two individuals, they seem to have worked towards achieving Lyotard’s requirements of paralogy and sustained heterogeneity of dialectics for postmodern discourse. Even

¹⁰ “AM,” Feyerabend’s abbreviation for his “Against Method” half of his planned dialog with Lakatos.

¹¹ According to Donald Gillies in a footnote to one of the letters published by Motterlini, “It was the nearest I ever saw in England to a seminar ending in blows! Imre was furious with me because he thought I had packed the audience with hecklers.” The specification of “in England” in the first sentence leads one to wonder if seminars out of England more frequently concluded with physical violence.

though each stated the aim of persuading the other to accept the opposing view, there was an amicable undertone of “it will never happen.” Their dialog *For and Against Method* itself demonstrates a tolerance of dissent (which Lyotard encourages under the label “paralogy”). Each frequently over-interpreted the other (*reductio ad absurdum*), but to talk past each other would have been the grossest violation of the rules of their dialog. Furthermore, the two participants respected each other’s rules of discourse on a personal level in such a way that rather than merely tolerating each other’s differing views, each detailed the flaws in the other’s argument in a constructive rather than destructive way, in the interest of prolonging the dialog.

As such, it is important to ask if there are other alternative methods of dialog. Lyotard’s suggestion of “paralogy” and simply the tolerance of alternative interpretations and theories as a more open mode of sharing ideas promotes the proliferation of more dialectic modes—more methods, not just more “declarations” of information, which perhaps prioritize one theory, one style of dialog, over the rest. Somewhat relatedly, science historian Peter Galison points out:

We don't have to agree on all the meanings of things to be able to coordinate them. And that seems to me what happens in science a lot--that the experimentalist and the theorist figure out what theoretical particle goes with what track on the plate, but the experimentalist does not have to take on board all of the details of theory that the theorist may have embedded around a particular particle.

While Galison here discusses interdisciplinary dialog as the coordination between applied and theoretical sciences, *i.e.*, *within* in a field, he seems to suggest that his idea can also apply in the coordination between more disparate fields. Perhaps their coordination can

be seen in this light as an alternative mode of dialog. “Coordination,” as Galison describes it, can occur between experimental methodologies but without a complete coordination integration of the related theories. In this way, coordinating experimental approaches from different fields or theoretical contexts would seem to be another alternative mode of constructive dialog or paralogy, allowing two philosophies to interact without either dominating or silencing the other. I think the interdisciplinary dialogs between scientific realists and postmodernists might benefit from a coordination—in Galison’s sense—between experimental psychology and documentary filmmaking methods.

EXPERIMENTAL DESIGN IN DOCUMENTARY FILM

As previously discussed, documentary films don't necessarily intend to produce "truth" in the same sense that psychological experiments intend to do. The assumptions underlying the two practices originate in very different philosophies of what "truth" entails—different in part because of how these philosophies focus on individuals or societies in the world. While documentary filmmakers tend to focus on individuals and society in relatively emotional and poetic ways; psychologists approach their subjects in relatively logical and explicative ways. In practice, however, emotion and logic, "poetic" and "explicative" are hardly the clean dichotomies that they supposedly are in theory. Characterizations of how sciences change over time have included more than purely logical or rational processes. As previously discussed, Kuhn and Latour have suggested that social and political factors play a role in shaping theory, as do ideas which are *not* purely rational, yet *are* inherent in the language involved in describing theory. By the same token, documentary films can question the ability to represent events "logically" or less abstractly. Director Errol Morris for example has structured films such as *The Thin Blue Line* in ways that methodically deconstruct pieces of evidence, revealing the discrepancies between supposedly objective or otherwise "authoritative" points of view.

To understand how scientific realism and postmodernism overlap with each other in these ways when they seem fundamentally opposed to each other, it seems all the more worthwhile to explore a coordination of methods in experimental psychology and experimental documentary. Doing so offers a route to developing further dialog and perhaps meaningful interaction between disparate philosophies. A "meaningful"

interaction or dialog might entail each perspective—here, realist and postmodernist—viewing the other’s major aims (modes of reasoning) and obstacles (“missing” reasoning) in a useful light. When might “precise literal” interpretation of an observation lead to more or less insight than poetic interpretation? Can the two modes of interpretation not build from each other? Ahead I will discuss two documentary films that demonstrate rudimentary coordination of experimental methods from documentary and psychology. I focus on their respective filmmaking methods as “experimental” methods because of how each film tests a hypothesis, and subsequently interprets its observations.

Revisiting Michael Apted’s *Up* series and analyzing it alongside another documentary, Peter Brinson’s *It Did It* (2000), I will explore these two films as examples of documentaries that employ aspects of a scientific method alongside filmic metaphor. Apted initially intended to test a hypothesis along the lines of “the social ‘caste’ system sustains itself by privileging the rich and depriving the poor.” To test this hypothesis, Apted assisted original director Paul Almond, who left the project after the first film, in selecting a group of children in the early 1960s as part of what is essentially a long-term “repeated measures” study: every seven years, Apted planned to revisit each subject to repeat the interviews in which he asks a standardized set of questions. Early on, the films hypothesize that the rich children are destined to remain rich; poor kids are destined for poverty; “lower classes” will express more violent tendencies because they “have less,” and so more often become delinquents; city children will be more communicative and socially adept than the rural children, and therefore “more successful” in some sense.

As the series progresses, some of the subjects become increasingly critical of their portrayal. Apted seems to reflect more on his own approach, and he gives his subjects screen-time to critique it. His reflection is accompanied by a vague sense of regret for rounding up 7-year-olds in the 1960s and psychologically dissecting them on film in order to test whether it is possible to look at the child and predict the grown adult. For example, in *49 Up* (2005), one of the most vocal critics is Jackie, now a single mother who is raising three children. Financially, she struggles, but when asked if she regrets getting married before age 21, she fiercely states in her interview:

You wouldn't have asked some of the other people in this program that question [...] You will edit this program as you see fit. I've got no control over that. [...] This one [*49 Up*] may be—*may be*—the first one that's about us rather than your perception of us.

Jackie continues by suggesting that the film has focused more on her problems rather than what she is actually doing or planning to do, portraying her as depressed when overall, she is not. Ultimately, she states that while others in the program may choose to share so many details of their lives with Apted, she doesn't think he should be asking them to do so. To this, Apted replies, "It's part of people's lives, and this program is about people's lives." Perhaps Apted is refusing to acknowledge that the film is necessarily his own perception of those lives. On the other hand, by stating what he thinks the film is about, and particularly by stating so in his own voice from behind the camera while filming Jackie's critique, he makes the viewer more conscious of the film *as his* portrayal. The film thereby becomes a more situated story, rather than an impersonal and "universally revelatory" metanarrative.

It is very much in the public's interest to know something about these people's lives and the accuracy of Apted's sociological conjectures. Even so, it is difficult today to justify publicly documenting children as a long-term study of whether a person can in fact change their social "place" or class. Apted's struggle with the curiosity-versus-ethics dilemma is easy to criticize in hindsight, out of the nationalist cultural context in which his project began—a half-century ago in the U.K. when "for the greater good" might have meant something very different and less sinister than what it suggests today in a global context. In the 1950s, vocal socialists in the New Left movement across western Europe began to push for a wariness of such "self-sacrificing" notions, and for wider adoption of Marxist ideas to equalize wealth among classes. In the U.K., the movement seemed to gain momentum in the 1960s with vocal socialists such as Raymond Williams and E.P. Thompson, critical of the traditional classist structure of British society. This political movement was accompanied by New Wave films of the 1960s in which filmmakers examined societal structure more critically, delving into the lives of working class individuals. The release of *Seven Up* in 1964 coincided with fiction films shedding sympathetic light on working class children's rough lifestyles, as in Ken Loach's *Kes* (1969) and François Truffaut's *The 400 Blows* (1959). However, some of the "equality" messages of these films, seem oddly executed, somehow retaining a sentiment that, much like the classism which the socialists decry, holds little regard for individual rights of the subjects displayed on screen.

However, there are other flaws in Apted's methodology. Viewed as an experiment, the *Up* series exhibits poor design in its circular reasoning as well as in its

questionable morals. Apted admits to choosing to film certain subjects in ways that might predict their future success or delinquency. In *21 Up*, for instance, one of the subjects, Tony, has recently given up on his childhood dream of becoming a jockey and is instead involved in gambling as part of his work at a racetrack. At this point, Apted chose to film Tony in run-down “dangerous”-looking areas. Apted presumed that from his involvement in gambling, on top of a relatively rough and unprivileged childhood, Tony could likely end up in prison by the time the next film is in production. On the contrary, Tony never goes to jail, but instead goes on to have a fairly successful career as a cab driver and occasional TV-actor.

Apted first labels and classifies his subjects then proceeds to measure each one in a rather different way. Consequently, his methods come off as preconceived, presuming the outcomes of subjects not yet measured while claiming to portray them “objectively” when he can only possibly show his subjects as he sees them, *e.g.*, “Tony as a criminal misfit” and “Jackie as overwhelmed by problems” versus “Tony as Tony sees himself,” and “Jackie as Jackie sees herself.” However, it seems impossible for even the most carefully designed study of social behavior to avoid labeling or otherwise classifying the subjects to be observed. Sociologists have employed a variety of statistical approaches in the attempt to achieve some degree of objectivity, but all of these approaches necessarily involve some observer-chosen criteria—choices of which behaviors or opinions to survey, or at what frequency—which ultimately determine how subjects will be classified for the duration of an experiment. As a result, there seems to be no reconciliation between a scientific method’s claims of objectivity, and the

necessarily subjective portrayal of social behavior. For example, self-reflexivity as Apter begins to demonstrate in the *Up* series is not common practice (if practiced at all) in sociology. Even Latour's anthropological approach to studying a chemistry research group, while defined as a report from his own perspective, defines Latour's perspective as "naïve" to scientific methods, and thereby supposedly unbiased or "objective" in how Latour regards scientific research.

Along the lines of the necessity of self-reflexivity in portraying a subject's thoughts, it follows that more honest or accurate portrayal should perhaps be an autobiographical portrayal. Director Peter Brinson's short documentary, *It Did It*, brings the issue of what defines valid or accurate portrayal full circle, from the matters of "valid" (accurate, fair, or otherwise honest) portrayal of "other" individuals, to valid portrayal of one's own perspectives on collective theories. Brinson combines artistic and scientific methods in *It Did It* to examine how Prozac affects his lifestyle. Within a personal story, Brinson nests a "scientific methods" storyline, going from hypothesis to methods to results. He tests whether medications such as Prozac or Zoloft could be the solution to his depression, and he finds that while it gives him a sense of happiness, it doesn't seem to be a kind of happiness that Brinson is searching for. After trying the medication for a few weeks, Brinson reflects:

On Zoloft, I desired less, I worried less, and I needed less. And that was happiness. I guess desire is the condition of lacking, and unhappiness is the pain from wanting to fill that space. But if depression is being past that point of pondering one's needs as well as acting on one's desires, then I don't need the medication. I will admit that I miss enjoying the present, but maybe that is just me.

The only voice heard throughout the film is Brinson's, emphasizing the autobiographical nature of the piece. The film does show his interaction with a few select "earthlings," though, when he consults with his doctor (portrayed by an actor), as well as with a group of aliens (portrayed as a basket of kittens), and with a flock of emus. By juxtaposing his dialogs with these other entities next to the scientific and clinical descriptions of neurons in healthy versus depressed individuals, Brinson develops a compelling dialog between an artistic and a scientific approach to his own condition.

In response to his experimental question, "If I am always happy, will I still be me?" Brinson hypothesizes that "Prozac, as a chemical, would be a natural addition to my quantitatively understandable, constantly changing brain." On this personal issue of happiness, Brinson takes on a role of open-minded observer without privileging one type of information over another. The science-related information he gathers (from drug information sheets, to encyclopedic definitions, to a clinic's multiple choice depression-diagnosis questionnaire) holds equal credibility relative to his enactment of a UFO crash landing, and consultations with Alex the pessimistic alien-kitten who, for instance, philosophizes that "feeling bad is a symptom of seeing things for what they are."

It Did It is not meant to be a film on "how to objectively explicate the scientific method." As a part of a set of films and artworks produced for Rachel Mayeri's collection, *Soft Science*, Brinson's commentary echoes postmodern critiques of metanarratives when he questions the legitimacy of psychotherapy, or clinical attempts at defining disease, depression, and happiness. The film does suggest that Western culture often attempts to characterize the world in ways that are "too logical" or explicative.

Brinson demonstrates an alternative to such approaches when he employs metaphor to emphasize the uncertainty inherent in any attempt at explaining phenomena, be they social, psychological, or natural.

At the end of the film, however, Brinson even questions the trustworthiness of his own perspective when he states, “I have only indirect proof of how anyone besides myself thinks or feels, but it turns out that there is no proof of how I think or feel either.” Whereas Apted simply begins to see the value of self-reflexivity as integral to the honest portrayal he aims for in the *Up* series, Brinson seems to go a step further by raising an epistemological question about that postmodernist viewpoint—the question of why self-reflexive micro-narratives told in an autobiographical form should necessarily be trusted as ideal forms of honesty.

True, Brinson is free to speak his mind, and this “freedom of micro-narrative” is perhaps all that postmodernism is proposing. Nonetheless, there seems to be an ironic futility in the way that many postmodernist philosophers continue to address the practical issue of “freeing micronarratives from the oppression of metanarratives” by way of verbal discourse when it leads so easily to so much confusion, perhaps unnecessarily. For instance, Habermas (1981) criticizes postmodernism for decrying “metanarrative” in society while it can only hypocritically offer yet another metanarrative in place of the former. However, Habermas seems to willfully misinterpret not only postmodernism’s aims—to “level” the playing field for less-represented worldviews, rather than to replace one dominant narrative with another—but he also seems to willfully misuse “open” dialog itself when he declares:

[N]eo-populist protests only bring to expression in pointed fashion a widespread fear regarding the destruction of the urban and natural environment, and of forms of human sociability. There is a certain irony about these protests in terms of *neoconservatism*. The task of passing on a cultural tradition, of social integration, and of socialization require the adherence to a criterion of communicative rationality. [emphasis added]

Here, Habermas tries to identify a problem in how neo-populism describes the world, but he tries to do so using the terms of another worldview, neoconservatism. Of course such an act would yield “a certain irony.” Ideologies tend to be incommensurable, particularly in their alternative descriptions of more complex, long-term, large-scale phenomena such as processes of societal change. A theory for how societal change “works” is a sub-part of an ideology; it cannot simply be substituted into the context of another ideology because the subparts themselves are reflections of their ideological contexts. It therefore seems to be a senseless observation for Habermas to put into text. Having expressed himself in such a way, though, Habermas conveniently illustrates a point here: that an alternative to verbal discourse is desperately needed.

Part of the problem with verbal dialog in traditional Western thought seems to be its association with Hegelian dialectical structure in which two opposing sides of an argument (thesis and antithesis) come together. The focal point of interest in the Hegelian dialog structure is the contradiction between thesis and antithesis, and the dialog’s ultimate aim is “synthesis” between these two sides. Philosopher Jacques Derrida suggested that alternative and useful modes of dialog need not aim for synthesis, nor should they necessarily focus on the contradiction of opposing sides. “Deconstruction,” as a dialectical alternative proposed by Derrida, focused on

deconstructing the “differance”¹² rather than describing contradictions between opposing sides in a discourse. In parallel to Lyotard’s push for paralogy, Derrida raised the importance of considering alternatives to “synthesis,” in which contradiction between opposing elements is resolved, often mistakenly or artificially. Where Derrida was focused largely on dialog in textual media—spoken or written, in particular—it seems that an incorporation of visual media into a dialog opens further options for how opposing ideas and elements might interact. The films by Apted and, more so, Brinson begin to demonstrate one type of alternative.

Further demonstration of alternative could be as simple as a film whose focus or purpose was more closely tied to the embodiment of a dialog between philosophies of art and science. Certain documentaries have approached this dialog either as a focal topic, as in William Arntz’s *What the Bleep Do We Know!?* (2004), exploring the fundamental connections between scientific ideas in quantum physics and more spiritual ideas about consciousness. Similarly, Errol Morris does not focus explicitly on the relation between scientific and alternative philosophies, but instead integrated questions on such topics into his filmmaking approach in *The Thin Blue Line* (1988) by deconstructing evidence that might have at first appeared “believable” simply for the fact that it was first presented on screen in an interview with a police officer, or in the text of an official governmental report. However, unlike Derrida’s version of deconstructionism, each of these films does seem to focus on contradictions between opposing sides within their

¹² To further demark his own deconstructionism from Hegelian dialectics, Derrida proposed the term “differance” in place of Hegel’s “difference,” to differentiate (Differentiate? Is there no end to this?) between each of their approaches for viewing the relationship between opposing sides of a dialog.

respective stories, and each film attempts to resolve these contradictions through synthesis.

Apted's and Brinson's methods of recognizing limits and inclinations in their portrayals of subjects demonstrate useful modes of "more metaphorical" and "less explicative" dialog regarding topics of scientific interest. However, neither film has the explicit purpose of embodying or fostering deeper dialogs between postmodernism and scientific realism, specifically. Perhaps identifying the purpose as such would be to miss the possible broader meanings of each film. Nonetheless, the aims to resolve into a conclusive synthesis in Apted's and Brinson's films, similarly to Arntz's and Morris's, resemble Hegelian dialectics rather than an alternative mode.

CONCLUSION?

In examining the “experimental designs” in Apted’s and Brinson’s films, it is evident that each of the filmmakers needed to allow his subjects to respond naturally and honestly in the course of the experiment. For Apted, honesty comes with a recognition of his own perspective in the *Up* series’ characterization of individuals as preconceived social units, rather than as themselves; for Brinson, it comes with a decision to trust his own attitudes towards what and who defines “happiness.” Each of these films comprises experimental design directed at *elucidating* some truth about the subject. As such, while questions feature prominently in the films, the process of questioning is not the predominant closing tone of the film. For example, Apted is questioning whether social status in childhood determines status through adulthood, but viewers are not privy to Apted’s thought process regarding how or why he continues to ask this question in a given way. Instead, the films close with “answers:” “happiness is individually-defined;” “some individuals can break out of the social hierarchy.”

It seems naïve to suggest that the possibility for further dialog should *have* to be emphasized in the final notes of a film’s narrative for it to be considered a questioning film. To suggest such a thing as *necessary* is to presume that a questioning tone needs to be literally expressed in order for viewers to sense the filmmaker’s question. Nonetheless, if unresolved or unresolvable questions, rather than finite answers, *had been* the aims of these films, why should they follow traditional narrative forms with such clean conclusions? While the *Up* series is still in production and can be seen as having an unconventional “circularity” to its iterative story structure, each of its episodes have so

far been based on a finite story structure of answering “where are they now,” presenting past interviews with each subject and adding new interview material from a fairly constant set of questions. Why not end instead by somehow unraveling the preceding logic and structure (as Feyerabend frequently did through *reductio ad absurdum* rhetoric), or otherwise leaving the films unconcluded, their answers “unnamed” (as Lyotard and Derrida proposed)?

In his essay, “Let’s Make More Movies,” Feyerabend cites a number of philosophers through history who each tried to find alternatives to purely verbal discourse. He highlights Bertolt Brecht’s dramatic play *Life of Galileo*, which paints Galileo as a vivid and intellectually playful personality with human and social cares beyond the scientific problem solving which preoccupies so many historians and philosophers of science. Feyerabend says that Brecht’s play gives human faces and dimensions to the philosophical problem of “the role of reason in society and in our private lives, and of the changes which reason undergoes in the course of history.” Feyerabend highlights a number of Plato’s works, too, for attempting to break philosophy away from solely verbal discourse. To little avail. “Philosophy [...] chose to restrict itself to the word.” And today, Feyerabend has been given the title “Science’s Greatest Enemy” (or “worst” enemy, and other variations) by a number of past and present scientists and philosophers (some affectionately; others less so).

According to Feyerabend, what is needed to remedy today’s separation of science and philosophy of science is simply their reintegration, a destruction (or “deconstruction”) of their boundaries. And for this, he suggested the revival of what he

termed a more comprehensive system of presentation through “a form of life in which the constituents of older myths—theories, books, images, emotions, sounds, institutions—enter as interacting *but antagonistic* elements. Brecht’s theatre was an attempt to create such a form of life. He did not entirely succeed.” Feyerabend suggests we try movies instead.

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