

ÉMILE ZOLA THE EXPERIMENTAL NOVEL (1880)

"From The Experimental Novel." Critical Theory Since Plato. Ed. Hazard Adams. New York: Harcourt Brace Jovanovich, 1971. 645-655.

Zola begins by arguing that the "return to nature, the naturalistic evolution" (645) is driving "all human intelligence" (644) along the "same scientific path" (645). Drawing in particular upon Claude Bernard's Introduction à l'étude de la médecine expérimentale, Zola proclaims that he intends to provide a theory of the novel with the "rigidity of a scientific truth" (645). Bernard's work represents, Zola argues, one of the first "feeble attempts of a science to disengage itself little by little from empiricism" (645) (he uses empiricism in the sense of 'haphazard observation' as opposed to scientific experimentation designed to prove the truth) and, thus, to apply to the "study of living bodies" (645) techniques (he calls this the "experimental method" [645]) appropriated from the study of the physical sciences and leading to the "knowledge of physical life" (645). "It is but a question of degree in the same path which runs from chemistry to physiology, then from physiology to anthropology and sociology" (645).

In order to apply it to the study of literature, Zola briefly summarises Bernard's experimental approach to medicine. The difference between applying to inanimate and animate objects, Bernard argues, is that the

inanimate body possesses merely the ordinary, external environment, while the essence of the higher organism is set in an internal and perfected environment endowed with constant physiochemical properties exactly like the external environment; hence there is an absolute determinism in the existing conditions of natural phenomena; for the living as for the inanimate bodies. He calls determinism the cause which determines the appearance of these phenomena. This nearest cause, as it is called, is nothing more than the physical and material condition of the existence or manifestation of the phenomena. The end of all experimental method, the boundary of all scientific research, is then identical for living and for inanimate bodies; it consists in finding the relations which unite a phenomenon of any kind to its nearest cause or, in other words, in determining the conditions necessary for the manifestation of this phenomenon. Experimental science has no necessity to worry itself about the 'why' of things; it simply explains the 'how.' (645)

"Experimental medicine . . . can alone give us an exact idea of experimental literature" (646), Zola argues.

In Part I, Zola attempts to define in what exactly the 'experimental method' consists. He asks whether "experiment [is] possible in literature, in which up to the present time observation alone has been employed?" (646). Bernard, he points out, distinguishes between mere observation and experimentation by arguing that both involve observation but, in the case of the latter, the experimenter "acts upon nature and modifies it" (qtd. in Zola, 646): the

observer relates purely and simply the phenomena which he has under his eyes. . . . He should be the photographer of phenomena, his observation should be an exact representation of nature. . . . He listens to nature and he writes under its dictation. But once the fact is ascertained and the phenomenon observed, an idea or hypothesis comes into his mind, reason intervenes, and the experimentalist comes forward to interpret the phenomenon. The experimentalist is a man who, in pursuance of a more or

less probable, but anticipated explanation of observed phenomena, institutes an experiment in such a way that, according to all probability, it will furnish a result which will serve to confirm the hypothesis or preconceived idea. The experimentalist finds himself face to face with a true observation which he has called forth, and which he must ascertain, as all observation, without any preconceived idea. The experimentalist should then disappear, or rather transform himself into the observer, and it is not until after he has ascertained the absolute results of the experiment, like that of an ordinary observation, that his mind comes back to reasoning, comparing, and judging whether the experimental hypothesis is verified or invalidated by these same results. (qtd. in Zola, 647)

Given his intention to "determine how much observation and experimentation there can be in the naturalistic novel" (646), Zola argues that the novelist is "equally an observer and an experimentalist" (647). The "observer in him gives the fact as he has observed them, suggests the point of departure" (647) whereupon the "experimentalist appears and introduces an experiment, that is to say, sets his characters going in a certain story so as to show that the succession of facts will be such as the requirements of the determinism of the phenomena under examination call for" (647). Referring to Balzac's Cousine Bettine, Zola argues that the "whole operation consists in taking facts in nature, then in studying the mechanism of these facts, acting upon them, by the modification of circumstances and surroundings, without deviating from the facts of nature" (647). It is in this way that one acquires "knowledge of man, scientific knowledge of him, in both his individual and social relations" (647).

Warning that we do not know the "reagents which decompose the passions, rendering them susceptible of analysis" (647), Zola defines the "naturalistic novel" (647) as a "real experiment that a novelist makes on man by the help of observation" (647). Zola responds to the criticism that "naturalistic writers . . . desire to be solely photographers" (647) and that it is impossible to be "strictly true" (647) by arguing that the

idea of experiment carries with it the idea of modification. We start, indeed, from the true facts, which are our indestructible basis; but to show the mechanism of these facts, it is necessary for us to produce and direct the phenomena; this is our share of invention; here is the genius in the book. (647)

Zola's point is that "we must modify nature, without departing from nature" (647) because "observation indicates and experiment teaches" (647). In short, the work of the naturalist novelist is the "offspring of the doubt which seizes them in the presence of truths little known and phenomena unexplained" (647).

In Part II, Zola turns to the object on which the experimental method in literature is applied: human nature. He advances the view that in the nineteenth century the great discovery, "thanks to analysis" (647), has been that "there are fixed laws" (647) by which all aspects of physical nature are governed. "Living beings . . . are in their turn brought under and reduced to the general mechanism of matter" (647), the "existing conditions" (647) of which are the same for animate and inanimate objects alike. Physiology has assumed the matter of factness of science in that the "body of a man is a machine, whose machinery can be taken apart and put together again at the will of the experimenter" (648), just like his "passionate and intellectual acts" (648). The latter has long been the domain of philosophy and literature the "hypotheses" (648) of which will be decisively conquered by the rise of science. "All things hang together" (648), Zola argues, as a result of which it is but a natural evolution from the "determinism of inanimate bodies"

(648) to the "determinism of living beings" (648) and the realisation that in the same way that if "fixed laws govern the human body" (648), the "laws of thought and passion" (648) can also be determined: a "like determination will govern the stones of the roadway and the brain of man" (648).

Novelists, Zola argues, are the "analysers of man, in his individual and social relations" (648). To this end, they will come to make increasing use of "scientific psychology" (648) as a complement to "scientific physiology" (648). To "finish the series we have only to bring into our studies of nature and man the experimental method" (648) outlined in Part I. In other words, "we should operate on the characters, the passions, on the human and social data, in the same way that the chemist and the physicist operate on inanimate beings" (648). It is "scientific investigation, it is experimental reasoning, which combats one by one the hypotheses of the idealists, and which replaces purely imaginary novels by novels of observation and experiment" (648). Zola backs away from delineating the precise laws by which human nature is determined, saying only that it is difficult to render the complexity of the "highest manifestations of man as an individual and as a social member" (648), the "truths of the science of man" (648) being "restricted and precarious" (648). He does say, however, that "heredity has a great influence in the intellectual and passionate manifestations of man" (648) as do his "surroundings" (648). He alludes briefly to the importance of "Darwin's theories" (648) with regard to the former, but has most to say about the latter, arguing that it is the "interorganic conditions" (648), the "social conditions" (648), which must be taken into account if we wish to find the determinism of phenomena in living beings" (648):

[s]omeday the physiologist will explain to us the mechanism of the thoughts and passions; we shall know how the individual machinery of each man works; how he thinks, how he loves, how he goes from reason to passion to folly; but these phenomena, resulting as they do from the mechanism of the organs, acting under the influence of an interior condition, are not produced in isolation or in the bare void. Man is not alone; he lives in society, in a social condition; and consequently, for us novelists, the social condition unceasingly modifies the phenomena. Indeed, our great study is just there. in the reciprocal effect of society on the individual and the individual on society. . . . And this is what constitutes the experimental novel: to possess a knowledge of the mechanism of the phenomena inherent in man, to show the machinery of his intellectual and sensory manifestations, under the influences of heredity and environment, such as physiology shall give them to us, and then finally to exhibit man living in social conditions produced by himself, which he modifies daily, and in the heart of which he himself experiences a continual transformation. (648-649)

The goal of the naturalistic novelist is to "solve scientifically the question of how man behaves when they are in society" (649). The "experimental novel" (649) is, accordingly, the "consequence of the scientific evolution of the century" (649) because it is devoted to the "study of the natural man, governed by physical and chemical laws, and modified by the influences of his surroundings" (649). This is why it is the "literature of our scientific age" (649) in much the same way that Romantic literature was the product of an earlier "theological age" (649).

In Part III, Zola turns his attention to the moral "purpose" (649) of the experimental method in literature: "to make oneself master of life in order to be able to direct it" (649). Our goal as intelligent beings, he argues, is "to penetrate to the wherefore of things, to become superior to those things, and to reduce them to a condition of subservient machinery" (649). The naturalistic novelist also "employs the experimental

method in his study of man as a simple individual and as a social animal" (649) in order to "master certain phenomena of an intellectual and personal order, to be able to direct them" (649). We are, he says, "experimental moralists, showing by experiment in what way a passion acts in a certain social condition" (649) in order to "gain control of this passion . . . and reduce it, or at least make it as inoffensive as possible" (649). In this "consists the practical utility and high morality of our naturalistic works, which experiment on man, and which dissect piece by piece this human machinery in order to set it going through the influence of the environment" (649). The naturalistic novelist engages in a "practical sociology" (649): to be the "master of good and evil, to regulate life, to regulate society, to solve in time all the problems of socialism, above all, to give justice a solid foundation by solving through experiment the questions of criminality--is not this being the most useful and the most moral workers in the human workshop?" (649).

Zola distinguishes between naturalistic and "idealistic novelists" (649) who "cast aside observation and experiment, and base their works on the supernatural and the irrational, who admit . . . the power of mysterious forces outside of the determinism of phenomena" (649). The latter are also dogmatic, believing that they know the absolute truth of things even as they remain "in the unknown, through all sorts of religious and philosophical prejudices under the astounding pretense that the unknown is nobler and more beautiful than the known" (650). By contrast, the naturalistic novelist "is always in doubt" (Bernard qtd. in Zola, 650) and "does not think that he possesses absolute certainty about anything" (Bernard qtd. in Zola, 650). He deals with the here and now, not least the social context in which men find themselves:

in society, as in human beings, a solidarity exists which unites the different members and the different organisms in such a way that if one organ becomes rotten many others are tainted and a very complicated disease results. . . . [W]e try to find the simple cause in order to reach the complex cause of which the actions is the result. (650)

Zola then turns his attention to the "great reproach" (650) often directed to naturalistic novelists: that 'determinism' means 'fatalism': that "as soon as we did not accept free will, that as soon as man was no more to us than a living machine, acting under the influence of heredity and surroundings, we should fall into gross fatalism, we should debase humanity to a troop marching under the baton of destiny" (650). Zola insists that determinism and fatalism are not the same thing, the latter assuming that the

appearance of any phenomenon is necessary apart from its conditions, while determinism is just the conditions, essential for the appearance of any phenomenon. . . . Once the search for the determinism of phenomena is placed as a fundamental principle of the experimental method, there is no longer either materialism, or spiritualism, or inanimate matter, or living matter; there remain but phenomena of which it is necessary to determine the conditions, that is to say, the circumstances which play, by their proximity to these phenomena, the role of nearest cause. (Bernard qtd. in Zola, 651)

We are the "determinists who experimentally try to determine the condition of the phenomena, without departing in our investigation from the laws of nature" (651).

For this reason, Zola argues, the "moral purpose of the experimental novelist" (651) is clarified. The naturalistic novelist does not have to explicitly "draw a conclusion" (651) because the "experiment concludes for him" (651). He may repeat it several times and even explain it but he "need neither become indignant nor approve of it personally; such is the truth, such is the way phenomena work" (651): "we ought to content ourselves with searching out the determinism of social phenomena, and leaving to legislators and to men

of affairs the care of controlling sooner or later these phenomena in such a way as to develop the good and reject the bad, from the point of view of their utility to man" (651). As experimental moralists, we merely "show the mechanism of the useful and the useless, we disengage the determinism of the human social phenomena so that, in their turn, the legislators can one day dominate and control these phenomena" (651).

In Part IV, Zola turns his attention to the nature of the author. He cites Bernard's claim that the "human mind" (qtd. in Zola, 651) "at various periods of its progress has passed successively through feeling, reason, and experiment" (651). Faith gave rise to theology and "reason, or philosophy" (651) to scholasticism (a philosophical movement of the Middle Ages). However, philosophy must in turn give way to scientific experiment, the "study of natural phenomena" (651), the lesson that the "truths of the exterior world were to be found formulated . . . neither in reason nor in feeling" (651): "to obtain the truth it is necessary to descend into the objective reality of things, where they lie concealed under their phenomenal form" (651). Feeling, Bernard argues, "has always the initiative; it engenders the idea a priori or intuition; reason, or the reasoning power, immediately develops the idea and deduces its logical consequences" (651). Reason must in turn "be guided by experiment" (651), that is, by our careful observation of the facticity of things.

This is why Zola turns his attention at this point to the "role that the personality of the novelist should play" (651) in all this. Zola argues that the "genius of the experimentalist" (651), and not that peculiar to the poet or the philosopher, which should predominate in the novelist. He argues that the experimental "method is but the tool; it is the workman, it is the idea, which he brings, which makes the chef-d'oeuvre" (652). He quotes Bernard yet again to this end: "It is a particular feeling, a *quid proprium*, which constitutes the originality, the invention, or the genius of each one" (qtd. in Zola, 652). Bernard utilises the organic metaphor so beloved of nineteenth century thinkers: the "idea is the seed; the method is the soil which furnishes the conditions for developing and prospering it, and bringing forth its best fruits, according to nature" (qtd. in Zola, 652). Zola stresses that method without the originality produced by the insight of genius is worth little. However, if "you are content to remain in the a priori idea, and enjoy your own feelings without finding any basis for it in reason or any verification in experiment, you are a poet: you venture upon hypotheses which you cannot prove; you are struggling vainly in a painful indeterminism" (652). The poet (or the "metaphysician" [652] or idealist) "believes that the idealistic creation of his brain which coincide with his feelings, represent the reality (qtd. in Zola, 652). Sooner or later, however, one must recognise that "in order to arrive at the truth he must . . . study the natural laws and submit his ideas, if not his reason, to experiment, that is to say, to the criterion of facts" (652). The "genius, the idea a priori" (652) of the experimental or naturalistic novelist "remains, only it is controlled by experiment" (652) which "cannot destroy his genius; on the contrary, it confirms it" (652). Indeed, it will "be so much the greater when experiment has proved the truth of his personal idea" (652). The "age of lyricism, our Romantic disease" (652) measured a "man's genius by the quantity of nonsense and folly which he put into circulation" (652). In "our scientific century experiment must prove genius" (652). This, he stresses, is the "drift of our quarrel with the idealistic writers" (652) who "always start out from an irrational source of some kind, such as a revelation, a tradition, or conventional authority" (652). They "admit mysterious elements which escape analysis, and therefore remain in the unknown, outside of the influence of the laws governing nature" (652), taking "refuge in the unknown for the pleasure of being there" (652), and who have a "taste for the most risky hypotheses, who disdain to submit them to the test of experiment" (652). By contrast, naturalistic novelists seek day to "reduce the ideal, to conquer truth from the unknown" (652), and to "submit each fact to the test of

observation and experiment" (652). Unlike the vain undertakings of the idealist, the observer and the experimentalist

work for the strength and happiness of man, making him more and more the master of nature. There is neither nobility, nor dignity, nor beauty, nor morality in not knowing, in lying, in pretending that you are greater according as you advance in error and confusion. The only great and moral works are those of truth. (652)

Zola stresses that the "great unknown which surround us ought to inspire us with the desire to pierce it, to explain it by means of scientific methods" (652).

In Part V, after dealing with the difference between a philosophical theory and fidelity to the facts, Zola turns his attention to questions of form in the naturalistic or experimental novel. He begins by citing Bernard's view that the "revolution" (qtd. in Zola, 652) in which the experimental method consists "consists mainly in the substitution of a scientific criterion for a personal authority" (652) and the recognition of "no authority but that of facts" (qtd. in Zola, 653). Theory must derive from the facts, not the other way around: the "idea . . . must be enchained neither by scientific, nor philosophical, nor religious beliefs" (qtd. in Zola, 653). We "must modify theory by adapting it to nature, and not nature by adapting it to theory" (qtd. in Zola, 653). Naturalism "throws off the philosophical and theological yoke" (qtd. in Zola, 653), submitting the "authority of men to that of experiment and the laws which govern nature" (qtd. in Zola, 653). This is why, in Zola's view, Naturalism is "not a school, as it is not embodied in the genius of one man, nor in the ravings of a group of men, as was Romanticism" (653). It, rather, consists simply "in the application of the experimental method to the study of nature and of man" (653). It is a "movement" (653) in the sense of a "march forward in which everyone is a workman, according to his genius" (653). This is why in Naturalism, there can be "neither innovators nor leaders; there are simply workmen, some more skilful than others" (653).

To "know the essence of things" (653), Zola argues, it is necessary to adopt a "strictly scientific point of view" (653). "All theories are admitted, and the theory which carries the most weight is the one which explains the most" (653). There is "no authority other than that of facts proved by experiment" (653). The best "philosophical system" (653) is that "which adapts itself the best to the actual condition of the sciences" (653). He agrees with Bernard that "behind a manifestation of any kind of the human intelligence, there always lies more or less clearly . . . a philosophical system" (653) to which one should not "attach oneself devotedly, but to hold tenaciously to the facts, free to modify the system if the facts call for it" (653). Philosophy in general, Zola cites Bernard, "represents the eternal desire of the human reason after knowledge of the unknown" (653). Philosophers always "confine themselves to questions that are in dispute, and to those lofty regions that lie beyond the boundaries of science" (653). They, however, do not solve a single problem, and "keep up a cult of the unknown" (653).

Zola then turns his attention to the "question of form in the naturalistic novel" (653) because "it is precisely there that individuality shows in literature" (653). He argues that a writer's genius is found not only in the "feeling and in the idea a priori but also in the form and style" (653). He stresses, however, that the "question of the method and the question of rhetoric are distinct from each other" (653). By Naturalism, he intends the 'experimental method,' the "introduction of observation and experiment into literature" (654), something in which rhetoric plays no part, he claims. The various "styles in letters" (654) (or rhetorics) employed by writers, corresponding to "expressions of the literary temperament of the writers" (654), are superficial additions placed on top of the underlying experimental method in the naturalistic novel. Too much attention is paid to form, Zola argues. This is because the "form of expression depends upon the method"

(654):

language is only one kind of logic, and its construction natural and scientific. He who writes the best will not be the one who gallops madly among hypotheses, but the one who walks straight ahead in the midst of truths. We are actually rotten with lyricism; we are very much mistaken when we think that the characteristic of a good style is a sublime confusion with just a dash of madness added; in reality, the excellence of a style depends upon its logic and clearness. (654)

This view of diction contrasts powerfully with the view that style is the "spectacle of a powerful individuality, reproducing nature in superb language" (654).

Zola points out that for Bernard, literary and artistic works "are the expressions of sentiments as unchangeable as human nature" (qtd. in Zola, 654). However, Zola is of the view that "our domain is not limited to the expression of sentiments as unchangeable as human nature because it is essential also to exhibit the workings of these sentiments" (654). It is not enough merely to depict anger or love: "all of man belongs to us, not only in their phenomena, but in the causes of these phenomena" (654). He disagrees with Bernard's claim, however, that in the arts, "personality dominates everything. There one is dealing with a spontaneous creation of the mind that has nothing in common with the verification of natural phenomena, in which our minds can create nothing" (654). Zola points out that Bernard would seem to have lyrical poetry in mind in making such a claim. However, this does not apply to the "experimental novel as shown in the works of Balzac and Stendahl" (654). The experimental novelist, quite "apart from the matter of form and style" (654), is a "special kind of savant, who makes use of the tools of all other savants, observation and analysis. Our field is the same as the physiologist's, only that it is greater. We operate, like him, on man." (654). Zola disagrees, too, with Bernard's view that the artist is a "man who realises in a work of art an idea or sentiment which is personal to him" (654). Some people see art as the "burden of personal error which the artist has put into his study of nature" (654). The "personal feeling of the artist is always subject to the higher law of truth and nature" (654). His / her "personality . . . should only appear in the idea a priori and in the form" (654) of the work. The artist "starts out from the same point as the savant; he places himself before nature, has an idea a priori, and works according to this idea. Here alone he separates himself from the savant, if he carries out his idea to the end without verifying its truth by the means of observation and experiment" (654).

Writers pave the way for scientists in the same way that "hypothesis and empiricism precede and prepare for the scientific state which is established finally by the experimental method" (655). Writers are "pioneers" (655) of the truth verified by science. Writers must abandon their hypotheses once these have been disproved by scientific research. Science "furnishes . . . writers a solid ground upon which we should lean for support, to better enable us to shoot into new hypotheses" (655). The poet may take a risk by articulating opinions about unproven facts, but the experimental novelist "must accept determined facts, . . . building throughout on the territory that science has conquered; then before the unknown, but only then, exercising our intuition and suggesting the way to science" (655): in the experimental novel

we can easily risk a few hypotheses on the question of heredity and surroundings, after having respected all that science knows today about the matter. We can prepare the ways, we can furnish the results of observation, human data which may prove very useful. (655)

Referring to Shelley, seemingly, he reminds us that a "great lyrical poet has written lately that our century is a century of prophets" (655). Zola has in mind prophets not of the

“irrational” (655) nor the “supernatural” (655). Otherwise, if the prophets thought best to bring up again the most elementary notions, to serve up nature with a strange religious and philosophical sauce, to hold fast to the metaphysical man, to confound and obscure everything, the prophets, notwithstanding their genius in the matter of style, would never be anything but great gooses ignorant. . . . (655)

Zola argues that, by contrast, in our “scientific age, it is very delicate thing to be a prophet, as we no longer believe in the truths of revelation, and in order to be able to foresee the unknown we must begin by studying the known” (655).

Zola concludes that the literary work does not lie “entirely in the personal feeling” (655) which is merely the “first impulse” (655). Later, he argues, that part of nature “of which science has given us the secret, and about which we have no longer any right to romance” (655), impresses itself upon the novelist. The experimental novelist “accepts proven facts” (655), “points out in man and society the mechanism of the phenomena over which science is mistress” (655), “does not interpose his personal sentiments, except in the phenomena whose determinism is not yet settled” (655), and “tries to test, as much as he can, this personal sentiment, this idea a priori, by observation and experiment” (655). Zola stresses his conviction that the “same method, after having triumphed in history and in criticism, will triumph everywhere, on the stage and in poetry even” (655). In a classic dismissal of the expressive model, Zola argues that literature

does not depend merely upon the author; it is influenced by the nature it depicts and by the man whom it studies. Now if the savants change their ideas of nature, if they find the true mechanism of life, they force us to follow them, to precede them even, so as to play our role in the new hypotheses. The metaphysical man is dead; our whole territory is transformed by the advent of physiological man. (655)

Today, the emotions themselves are no longer the province of the writer: “today we feel the necessity of analysing anger and love, of discovering exactly how such passions work in the human being” (655). As a result, we have “become experimentalists rather than philosophers” (655). All in all,

experimental method in letters, as in the sciences, is the way to explain the natural phenomenon, both individual and social, of which metaphysics, until now, has given only irrational and supernatural explanations. (655)