

Chapter 1 : Pendulum Experiment

Randomized controlled experiments hold out the promise of heightened scientificity and new forms of social action. In this essay, Agnès Labrousse points out some of the practical limits of these experiments and situates them within a longer history of social experimentation and governing by.

These experiments are now promoted by international organizations such as the World Bank or the Bill and Melinda Gates Foundation. Often presented as revolutionary, this methodology purports to be highly scientific, transparent, and efficient in terms of social action ¹. Yet recent scholarship has identified the major shortcomings that become evident when such experimentation is implemented and utilized ². It is striking that these very limitations had already been brought to light in the United States in the s, during the last wave of randomized experimentation. Indeed, we are dealing with a recurrent project of governing by evidence, which, ever since the first social randomized controlled experiments of the s, has given way to cycles of enthusiasm and deception among scientific and political actors ³. A Claim to Scientificity The introduction of a methodology tested in the medical field—“randomized controlled clinical trials”—into the fight against poverty and public policy evaluations has supposedly resulted in increased rigor: The European website of J-PAL, the largest global poverty alleviation laboratory, says in a similar vein: It considered pairs of villages exhibiting similar traits: In total, 81 pairs of villages were selected from across Morocco and 6, households were included in the study and surveyed before the agency was established, one and two years later. There is no room for interpretation. If not, one simply has to try something else. Social Contingency and Diversity Carrying out randomized experimentation requires complex engineering and involves diverse groups of actors. If social experimentation, compared to laboratory experiments, is a real-life in vivo investigational device, it should not be overlooked that protocols produce artificial constraints and varied social reactions: For example, the content of an assessed project can be rejected. Seeking to modify the incentive system for students by introducing financial rewards designed to encourage attendance, it met with resistance, which resulted in it being canceled at the conclusion of its pilot phase Bureau et al. There are also cases of vulnerable populations reacting with disinterest or defiance. Resistance can also be directed at random sampling itself. Thus two flagship pieces that are constantly cited to illustrate the merits of randomization—“particular that of Kremer and Miguel on the positive impact of deworming pills on the education of children in Kenya”—were in fact only quasi-experiments Deaton, These social contingences result in statistical difficulties. Some experiments must deal with low participation or a drop out of subjects over the course of the experimentation process i. Problems relating to group permeability also arise: In the effort to control the protocol from beginning to end, experimentation depends on reservoirs of energy and ingenuity. This can be seen in a qualitative study conducted alongside the Al Amana experiment. Microcredit is not a mere technical procedure: Al Amana was, depending on the region, perceived as a branch of the central government—which was seen as frightening in some places, and illegitimate i. The implementation of a program can differ across space as a function of location, values, and routines of the operators, but also across time: Thus it becomes difficult to know what and which target audiences are being tested Bernard et al, Mandatory protocol standardization has difficulty adjusting, in this way, to local adaptations and social variability. Yet despite such standardization, interactions between handlers and laboratory animals can disrupt experiments: This is especially true in clinical trials, which are social constructs exposed to multiple influences Labrousse, For those reasons, one frequently observes major discrepancies between the planned protocol and the way it is implemented on the ground. Upholding a protocol can prove to be an impossible mission. In France, a researcher recalls encountering difficulties that were great enough to force him to resort to quasi-experimental techniques: Do these messy tinkering processes not turn this technique into an ordinary tool, requiring additional reflexivity on the part of experimenters? A Tricky Process of Interpretation Similarly, the interpretation of results is not as clear-cut and unambiguous as they appear on paper. In the first place, it is difficult to isolate the tested impact. In the case of the Al Amana experiments, the outcomes seemed perfectly clear: The qualitative study, however, showed that the reimbursement schedule, conceived in an urban environment, did not correspond to the constraints of the

agricultural calendar. This situation exemplifies a well-known epistemological problem: It is impossible to test a hypothesis in isolation, as any empirical test of this hypothesis in this instance, is microcredit an effective tool against poverty? Experiments seek to isolate pure effects, but isolation often proves ambiguous. The idea of *experimentum crucis*—that is, of experiments that can settle a debate once and for all—seem utopian. It is equally tricky to grasp the causal path how? Indeed, aside from instances of simple mono-causality a cause brings about an effect, with no feedback of the effect onto the cause, randomized experiments provide evidence of effectiveness a particular effect is observed rather than causality what mechanisms generated this effect? Thus clinical trials show that acupuncture is effective in preventing post-operative nausea, but the mechanisms that generate these effects are not known Labrousse, In cases of complex, cumulative, multifactorial, and non-linear causality, causal chains becomes a kind of black box for experimenters. Systematic and complementary qualitative studies should make it possible to open this box. The Limitation of Relevance to Particular Types of Public Action As randomized experiments are relatively rigid and suited to a straightforward causality, they prove relevant to projects in which the causal link between the treatment and its effect takes places in a relatively fast and linear way, as in the case of the deworming programs studied by Kremer and Miguel This simple treatment one pill every six months quickly improved the health of children suffering from worms and helped to reduce absenteeism. Yet experiments seem far from adequate, however, when what must be tested is a bundle of complex and evolving measures that depend on lengthy learning processes. These conclusions reconfirm in a troubling way the literature of the s and 80s that took stock of the previous experimental wave Monnier, A Recurrent and Cyclical Project of Governing by Evidence The practical problems encountered during the experiments are not new. From the s to the Present: By the s, educational issues and schoolchildren were the privileged subjects of these experiments: At this time, American psychological journals published numerous controlled experiments with test and control groups dealing with the impact of variation of class sizes, the sex of teachers, and various forms of classroom ventilation. To establish such comparable groups, these psychologists first devised matching methods, before proceeding to randomization. In the mids, the first major controlled randomized social experiment took place in Chicago. One can see that the modalities and themes of these pioneering experiments converge with those of contemporary experiments. They both belong to the same project of an experimenting society governed by evidence and they seem to have arisen in similar contexts. Thus in the United States, a propitious convergence of factors was contributing, by the s and 30s, to the gradual appearance of an experimenting society Dehue, A similar situation would recur during the second great experimental wave that took place in North America in the s and 70s: In France, in the mids, it was also in the twofold context of a need to rationalize budget procedures and a desire to renovate social policies at the initiative of Martin Hirsch that experiments were first introduced as part of the third great experimental wave. Another important factor in the development of experimentation was the mobilization of the economy during the Second World War. It contributed to the development of clinical trials through the mobilization of resources, the availability of numerous subjects, and government coordination of trials. It also fostered psychological experimentation in the American military: Donald Campbell, a major figure of the second experimental wave, earned his first stripes as an army psychologist in this division. Enthusiasm-Deception Cycles in Experimental Evaluations First introduced in economics in the late s, randomized controlled experiments would experience a significant rise in the s, after which it became mainstream and subsided in the s, before resurging in the s. It seems to follow a cycle: It is believed that they will significantly reshape social programs as well as the social sciences. Experiments are presented as a depoliticized tool for public action, in which the experimenter is viewed as an impartial expert, an agnostic who relies on nothing but pure facts. Then the initial enthusiasm fades. They test incremental changes within existing systems rather than ambitious new programs Greenberg et al. While one lacks sufficient perspective in the French case, some clues suggest that we are now entering this phase. And less intrusive experimentation is increasingly encouraged, in which subjects are not necessarily aware that they are involved in an evaluation. Even so, randomized experimentation is still continuing its rise in developing countries among international organizations, foundations, and in the academic fields of economics. This latest wave is driven by factors that are idiosyncratic to the discipline of economics: Repeated Experience of

Experimentation: At times, the history of experimentation seems to stutter. Another PhD student in economics at MIT, Esther Duflo, would play a significant role in creating a second experimental wave thirty years later. Yet in the literature of the new experimental wave, particularly as it deals with developing countries, little reference is made to the experience of the previous waves—as if its application to new territories was a blank page. Developed in the early twentieth century with the intention of improving social programs in developed countries, the method has, it would seem, returned to its virginal status in the southern countries, legitimating, through a boomerang effect, a powerful resurgence in the North: Smith, for instance, expressed surprise: The association warned against the idea of a gold standard in evaluation and called attention to the limits of randomized experimentation, yet its message finds little resonance among economists. Yet learning the lessons of past experiments could perhaps accelerate the learning effects among political as well as scientific actors. Randomized experimentation, a useful tool, is neither a gold standard nor a revolutionary method. It would benefit from being integrated into mixed methods approaches Morvant-Roux et al. A Tool for Accountability? To quote this article: If you want to discuss this essay further, you can send a proposal to the editorial team redaction at laviedesidees. We will get back to you as soon as possible.

Chapter 2 : Bacteria Growing Experiments in Petri Plates

Practical reflections on the uses and abuses of Bath waters: made from actual experiments and observations. To which is added, by way of appendix, a narrative of facts, relative to the physical confederacy, in Bath, in the year

Whatever improvements may result from the mode of generating steam by means of flat chambers, exposing large thin sheets of water to the action of corresponding thin volumes of heated air, through flues formed by alternate chambers placed side by side - the writer claims this as the grand and principal feature of his invention; and should tortuous or colorable expedients to deprive him of the results of his long-continued and expensive exertions be attempted, he confidently hopes that the support of the public will in vain be sought in behalf of the authors of such proceedings. Introduction The last twelve years have produced a great revolution in popular opinion regarding the expediency of employing steam as a locomotive agent on common roads; and this chiefly through the persevering exertions of a few ardent individuals, unconnected with, and acting indeed in rivalry of each other, to demonstrate, experimentally, that it is at once the cheapest and most efficient agent that can be employed. Its practicability they consider to have been fully established; its general adoption will take place more or less rapidly in proportion as the attention of scientific men shall be drawn by public encouragement to further improvement. Neither, perhaps, is it more than what experience might lead us to expect, that those who have done the least, should make the most noise about their doings, and clamour most for public honours and rewards. The author of these pages believes he should offend alike against truth and genuine modesty, were he to yield to any of the steam-carriage inventors who have appeared in his day, in a single particular of desert; he began earlier with one abortive exception and has persevered longer and more unceasingly than any of them; he was the first to run a steam carriage for hire on a common road, and is still the only person who has ventured in a steam vehicle to traverse the most crowded streets of the metropolis at the busiest periods of the day; he has built a greater number of steam carriages if not better than any one else, and has been thus enabled to try a greater variety of forms of construction, out of which to choose the best; and all that he has done, has been with his own means chiefly, while his rivals - the more prominent of them at least - have been largely assisted by others. He has never however, been an obtrusive suitor for the favour of the public - neither pestered it with boastful pamphlets, nor with wild exaggerations; he has been all along more anxious that his works should speak for him, than he for them. His steam carriages running on the public roads have been his best witnesses. He has been occasionally obliged to address the public journals, for the purpose of correcting erroneous statements that had gone abroad respecting particular performances of his carriages; but beyond that he has hitherto troubled the press but little. Nor perhaps should he have been now inclined to depart from the quiet, yet earnest, course he has hitherto pursued, were it not that he sees himself in some danger of being thrust aside in public regard, through the extraordinary efforts made by others to arrogate to themselves all the praise, where they have at best had but a share of the merit. That neither the public may be the dupes nor he the victim of false pretensions, he has at length resolved on publishing a complete and faithful narrative of his steam carriage experiments from their commencement, twelve years ago to the present period, along with engravings and descriptions of all the carriages he has built, and of the particular mechanical improvements which have from time to time been embodied therein, and have led to that perfect success which his performances have so often and so publicly attested. In making public these experiments, he most distinctly disclaim being actuated by any vindictive motives; he certainly feels none, and has but small cause to feel any; for much as his rivals have occupied the public attention with their vaunts, they have, as it happens, left him almost alone in the pursuit, and the field of locomotive enterprise as open as ever. His sole object is to do justice to himself, and justice to the cause in which he has been so long engaged, and the success of which he can never cease to have deeply at heart. Narrative The attention of the author of this Narrative was first turned to the subject of steam locomotion on common roads, by the circumstance of his having invented, in , a steam engine of a very novel description, which seemed to him peculiarly well adapted to the purpose. Metallic substances enter but in a very limited degree into the construction of this engine, and in the prime movers are almost entirely dispensed with; instead of iron or copper, an article is used

which is not only much lighter, but free from all liability to fracture; and hence both a great reduction of weight and great capability of resisting tear and wear, two of the most important desiderata in a steam carriage intended for common roads. A front elevation of this engine is exhibited in Plate I. It has two flexible steam receivers *f, f*, which are composed of several layers of canvas, firmly united together by coatings of dissolved caoutchouc or India rubber, and are thus enabled to resist a pressure of steam of sixty pounds upon the square inch. *B* is a four-way cock, which communicates with the steam receivers, and alternately admits and shuts off the steam, as it is acted on by an eccentric moved by the engine. The steam chambers and four-way cock are shown in section, that the communication may be more clearly seen: In the engine as represented in the plate, the upper receiver is filled with steam, and consequently at its extreme point of expansion, immediately previous to the exit of the steam by the pipe *e*, and the lower one is in a state of perfect collapse, but on the point of receiving steam from the pipe *d*, as intimated by the direction of the arrows. As the one receiver becomes emptied, the other is filled, and so on. The dotted lines show the positions which the chambers and moveable plates alternately assume. A regular reciprocating motion is thus obtained by the alternate filling and discharging of the receivers, and is converted into a rotary motion by a crank in the usual way. Anterior to the invention of this simple application of steam as a motive power, the writer had casually met with a print of a steam carriage, built by Messrs. Bramah for a Mr. Griffiths; and it now occurred to him that his new engine was well adapted to sustain the concussions to which such a machine must necessarily be exposed. A model of a steam carriage on this plan he accordingly constructed, which so far bore out his previous conception, as to determine him to commence the building of one on a larger scale. But after many trials and experiments, he found that the requisite degree of power for locomotive purposes could not be attained by means of his new engine. When once the mind, however, has been much exercised towards a certain point, it is no easy matter to apply it in a different direction; at least, it proved so in this case. Although his experiments demonstrated the inefficiency of his new engine as a locomotive agent, they left on his mind a strong conviction, that the application of steam power to the propulsion of carriages on common roads was decidedly a practical object. The great and essential desideratum seemed to him to be - a boiler that while it should generate steam rapidly, and produce a sufficient and continuous supply, should occupy but little space, be of small weight comparatively speaking, harmless if it should burst, simple in its construction and inexpensive in its manufacture; to construct such a boiler became now, therefore, his chief study. The first result, after many tryings and changings, was a boiler of the construction represented in Plate II. This boiler consisted of sixteen horizontal tubes or pipes, each connected by lesser tubes with those immediately above it and on either side, so that the contained water or steam might circulate through the entire series of tubes. The large horizontal tubes were each four and a half inches in diameter, clear of the metal, and four feet long, arranged as shown in fig. For the particular kind of tubes of which this boiler was constructed, the writer obtained a patent in The reader will not fail to perceive that by this arrangement a very extensive surface is exposed to the influence of the fire, while a perfect circulation of the water within the tubes is established throughout the entire series; and consequently, that a very rapid generation of steam must be the result. The steam-box appendage, however, the writer considered to be extremely objectionable both on account of the considerable space which it occupied, and of its lessening that security from explosion, which the employment of numerous tubes of small dimensions seemed to promise. The effect of a similar arrangement of tubes, but disposed vertically, was therefore, next tried, as shown in fig. This change in the position of the tubes was found to accelerate the generation and separation of steam, but there was still water enough forced out of the tubes along with the steam to make it impossible to dispense with the steam box. Many fruitless endeavours to accomplish this end followed in quick succession. One device better worth notice, perhaps, than the others, consisted in enlarging the heating surface, by passing a flue two inches in diameter, up the centre of each of the four and a half inch generating tubes, as shown in fig. The quantity of steam generated in a given time was much increased by this means, but the multiplication of the parts was objectionable, as rendering their connexion both complicated and expensive; the number of joints and rivets afforded, moreover, but little security in regard to leakage. The unsatisfactory result of every attempt to produce a safe and efficient boiler, on the tubular principle, led the writer to consider of some arrangement by which the water, exposed to the action of the fire, might be less

divided, and yet extended over a large surface; and the plan now occurred to him, which he has since successfully followed in the several steam carriages he has built, and applicable also to a variety of other purposes. For this invention, which he has denominated the chamber boiler, he obtained a patent in This boiler of which a front view is given at fig. The front view, fig. This boiler is composed of a series of distinct thin parallel chambers, or compartments, c c, placed side by side in a vertical position: The chambers are connected throughout, near to the p and bottom, as shown at p p; and each chamber is evented from distending, and thereby choking up the e-ways or flues, by vertical bars g g, as shown on the right-hand half of the boiler, or by hemispherical or other formed embossings or projections, made on the sides of e chambers, and meeting each other in juxtaposition, shown on the left-hand half of the boiler, in figs. A boiler constructed on the embossed plan is lighter, and a greater surface is obtained than in one in which visional bars are used. About four or five years ago, the writer tried various forms of projection in the sides of the chambers; some of them were channelled or corrugated the whole length, so as to form straight flues, and others were of irregular forms, to ease the heated air in its ascent to impinge on their lower daces, with a variety of other similar contrivances; but after giving the best consideration to all the forms, he was on the whole induced to adhere to the hemispherical embossing, conceiving that form to possess the greatest vantages, although he is still of opinion, that the use of vertical bars to prevent the distension of the chambers, d to form the flues, will have advantages in some cases, d may hereafter be recurred to. The hemispherical projections on the sides of the chambers the writer has occasionally employed almost from the first; but the corrugated form was suggested to him accidentally, in a boiler composed of plain-sided chambers, with vertical bars between, which through inattention to the due supply of water, being allowed to get almost red hot, instead of maintaining the shape shown in the horizontal section of two chambers at Fig. The whole boiler whatever the form of chamber is braced together by bolts b b, and stays s s, figs. The connexions pp, through which the bolts pass, have been named; bat it may be proper to observe, that such connexion is composed of a series of rings so much larger than the bolts b b as to allow steam in the top, or water in the bottom line of connexion, to pass freely from one side of the boiler to the other, through the perforated rings shown at fig. The form of these chambers, and the immediate connexion of them with each other, are such as to ensure an equal height of water throughout the series, by the perfect and uninterrupted range or flow of both water and steam throught the openings provided for the bolts; the steam is rapidly generated, and there is no tendency in the water to rise above its average level, and, thereby mixing with the steam, escape with it; therefore, to this boiler no separator is either required or used, nor is there any vessel besides the chambers to contain steam, so that any dangerous accumulation of it is impossible. The perfect safety of this boiler arises from the ample subdivision of its parts and power, and the weakness of the chambers, as compared with the bolts and braces by which the whole series is combined: The direct application of the power to the crank by this method gave encouraging hopes of success; and the arrangement had this further recommendation, that it admitted great facility in steering. After a variety of trials and alterations, however, it was found attended with so many practical drawbacks, that it was finally abandoned. The writer devoted much time to the construction of a propelling apparatus for this carriage under the idea that the friction of the wheels would not be sufficient; but experience proved the utter uselessness of any such adjunct and this first carriage was propelled by the fore wheel alone which was found to have quite sufficient bite upon the road. On one occasion it ran to Hounslow, and on another to Croydon. In every instance it accomplished the task assigned to it, and returned to Stratford on the same day on which it set out. In the course of these early experimental trips, the writer experienced the usual fate of all who run counter to long standing usages and prejudices; namely, to be ridiculed by the many, encouraged by but a very few, and fiercely opposed by all whose personal interests were threatened with injury by his proceedings. The popular mind had not yet become sufficiently familiarised to the notion of dispensing with horses in common road travelling. The newspapers bad made mention about this time of some private trials made by Mr. Goldsworthy Gurney, in a steam drag of his construction; but hitherto there had been no public exhibition of any thing of the sort. All had heard something of a scheme for riding by steam, but most persons with much the same degree of incredulity that we now listen to tales of journeying in the air. The writer was the first, or with the first, to offer, to all who chose to come and see, ocular demonstration of the practicability of the thing

- to exhibit in the face of day, and on the public highways, a carriage propelled by steam. But though this was evidence not to be gainsayed, it was not a little mortifying to see how the force of it was evaded. Some would admit frankly that the carriage worked well; but expressed as frankly their decided conviction, that it would never answer for a continuance. Others would depreciate its performances, exaggerate its defects, and exult, as it were, in every instance of accidental stoppage. If requiring temporary accommodation, through the failure of some part of the machinery, - a circumstance naturally enough of frequent occurrence in this early period of his loco- motive career, he usually experienced the reverse of kind or considerate treatment. Exorbitant charges were made for the most trifling services, and important facilities withheld, which it would have cost nothing to afford. If, again, he happened to be temporarily detained on the road from want of water, or from any other cause, he was assailed with hootings, yellings, hissings, and sometimes even with the grossest abuse. It is true, this latter description of treatment proceeded chiefly from the rabble; but he regrets being obliged to add, not exclusively so. Great obstruction was also continually experienced on those occasions from waggons, carts, coaches, vans, trucks, horse-men, and pedestrians, pressing so close on the carriage, as sometimes to preclude the possibility of moving. No ways disheartened by any of these untoward circumstances, the writer persevered in his experiments; and as the novelty of such exhibitions wore off, so also did the excitement and the opposition which they at first produced. Clearer-sighted views and kindlier feelings began gradually to prevail, more serious convictions of the practicability and advantages of substituting inanimate for animate power in common road travelling; and greater readiness to promote, by word and deed, the success of the project. Having clearly ascertained the disadvantage of applying the power directly to the crank, as before described, the writer next placed the engines quite behind, and at the same time altered the form of the carriage, so as to make it more nearly resemble an ordinary horse carriage. These new arrangements are represented in Plate VI. Much thought and labour were spent upon them, and many alterations suggested and tried from time to time. But the difficulty of keeping the machinery clean, owing to its proximity to the fire-place, as well as to the road, was found in practice to be so strong an objection, that this form of carriage had also to be abandoned. With this carriage, however, defective as it was, one point of the greatest importance in common road steam travelling was most satisfactorily determined. The possibility of a steam carriage ascending steep hills had been doubted and questioned by many; and to remove, if possible, all scepticism on the subject, the writer fixed a day for taking his carriage up Pentonville-hill, which has a rise of 1 in 18 to 20, and invited a numerous party to witness the experiment. A severe frost succeeding a shower of sleet, had completely glazed the road, so that horses could scarcely keep their footing. The trial was made, therefore, under the most unfavourable circumstances possible; so much so, that, confident as the writer felt in the powers of his engine, his heart inclined to fail him. The carriage, however, did its duty nobly. Without the aid of propellers, or any other such appendage, then generally thought necessary even on a level road, the hill was ascended at considerable speed, and its summit successfully attained, while his competitors with their horses were yet but a little way from the bottom of the hill. The feelings of the writer at that moment fully compensated him for all his previous annoyances. He had dissipated the doubts of friends, and disappointed the anticipations of enemies; he had conquered difficulties before deemed insurmountable, and placed the power of steam, in comparison with that of horses, in the most advantageous position. He enjoyed, therefore, the gratifying sensation of having effected a proud triumph, and returned the hearty congratulations of hundreds of spectators in the good old English fashion of proclaiming victory. The writer was stimulated by these experiments to fresh ardour. Assured that he was approaching towards complete success, he remodelled the entire arrangement of the machinery. The trunnion engines were laid aside, and fixed ones substituted; and such other alterations and improvements adopted, as had suggested themselves during actual work upon the road. The carriage, as thus reconstructed, was called, in reference to the infancy of the undertaking, the "Infant," and is re- presented at Plate VII. The bulk of the machinery, it will be observed, is fixed in the rear of the carriage, or body part appropriated to the passengers. There is first, the boiler, with the fire-place under it. Second, a space, between the boiler and passengers, for the engines and the engineer who accompanies the carriage, whence he has the whole of the machinery within his reach, and open to his view; and is thus enabled, during the progress of the carriage, to lubricate the parts requiring oil - attend to the gauge cocks, and

regulate the supply of water to the boiler, as well as the degree of blast from the blower - to increase or diminish the generation of steam, according to the various states of the road, and the wants of the engines, - and generally to give his immediate attention to any portion of the machinery requiring adjustment. And, third, a pair of inverted fixed engines working vertically on a crank shaft. The steering apparatus is at the extreme front of the carriage. The whole is on one framing, supported by four common coach springs, on the axle of each wheel. On the crank shaft and on the axle of the hind wheels are fixed indented pulleys, around which an endless chain passes, which communicates the power and rotary motion of the crank shaft to the hind axle, and propelling wheels, and thereby effects the progressive motion of the whole carriage.

Chapter 3 : Storyspace: Getting Started With Hypertext Narrative

Art and Design: Art Video Unit 1: Practical 2 Deadlines Week 10 (20/11/09) DEADLINE Unit 1 Practical 1 HAND IN Week 11 Kettle's Yard Visit Week 1.

Additional Information In lieu of an abstract, here is a brief excerpt of the content: The Contemporary-Linguistic View of Authority All narratives, whether they are cast as "philosophical" inquiries, "scientific" treatises, or "literary" texts, are inextricably bound to a labyrinth of interpretations, that is a web of other fictions, other narratives. Informed by another set of concerns, or what might be thought of as another "Philosophical tradition," Richard Rorty recognizes this intractable condition by commenting on what he identifies as the "post-Philosophical culture. Posing this question, Rorty comments on the possibility of securing a "foundation," a transcendental criterion underlying all knowledge and, thus, all philosophical arguments. According to Rorty, two ostensible responses are possible and can be framed in terms of the confrontation between the "pragmatist" and the "intuitive realist. Stated briefly, it can be said that while the relativist position acknowledges the differences and legitimacy of multiple cultural traditions, the absolutist position appeals to a point of reference underlying and independent of all traditions. Rorty obviates this traditional bifurcation by introducing a different vocabulary: Philosophy is the tradition that perpetuates schemas of classification and the binary opposition of concepts. Overcoming the weaknesses or insufficiencies of one classificatory framework is achieved by replacing it with another, supposedly more comprehensive, one. In this way, the tradition of Philosophy seeks an algorithm, that is "criteria to which all sides must appeal" in order to engage in argumentation and to resolve disputes of substance. According to Rorty, in a post-Philosophical culture, then, "criteria would be seen as the pragmatist sees them" as temporary resting-places constructed for specific utilitarian ends. The criterion is defined by its use. The demarcation of the linguistic and the nonlinguistic vocabularies of knowledge, the distinction between systematic and edifying discourses, or the foundationalist and nonfoundationalist, is itself a function of linguistic differentiation or commentary. But on the other hand, by way of declaration, that is by the pragmatics of the situation defined by Rorty, he claims the distinction to be central to any philosophical inquiry. By identifying the opposition of philosophical cultures as "a bedrock metaphilosophical issue," Rorty aligns himself with traditional Philosophical absolutism, reducing or translating the complexity of differences to a single binary opposition. It seems that the "pragmatic" character of all criteria or rules becomes the new "natural" point of departure in the post-Philosophical culture. Of course, Rorty would deny that his narrative provides any such proscription. The simple determination of different philosophical cultures, traditions You are not currently authenticated. View freely available titles:

Chapter 4 : a journal of practical writing

Welcome to THE EXPERIMENT We are an independent publisher, founded in , committed to publishing a wide range of nonfiction. Many of our books are highly practical, others are straightforwardly narrative—and some ingeniously combine practical information with narrative gusto.

Additional Information In lieu of an abstract, here is a brief excerpt of the content: These claims were advanced in a discussion primarily concerned with the etymology of the terms science and technology. The appeal to the Greek and Latin roots of these terms showed how use creates the means and constitutes the context necessary for announcing the interdependence of science and technology while still preserving their differences. As a result of this appeal, a third claim can be advanced regarding the interplay of science and technology. The textual can be seen as tracing the domain of practice, while the etymological can be seen as tracing the domain of theory. Moreover, the appeal to etymologies demonstrates how, at once, we work in at least three intertwined domains: What must be taken into account, then, is the reciprocity that constitutes these domains. Each domain mediates the others. The reciprocal intervention of the activities and facts in one domain with the activities and facts in the other domains underlies any attempt to comprehend their assemblage. As such, the assemblage of these domains constitutes the cultural matrix within which their intersections are recognized. Fictional devices—whether they are literary texts, poetic images, artistic expressions, philosophical propositions, or scientific theories—are the means by which we approach those points where the domains in question seem to intersect and differ. One way to trace the different applications of the terms science and technology—that is to say, the joint articulation within and between one or more of the identified domains—is to focus on their representation in various fictional accounts. For present purposes, this focus can be achieved through an exploration of specific texts from the literature of the early seventeenth through midtwentieth centuries. To designate any vision of science and technology as "fictional" is to open the field of literature and creative works that attempt to give accounts of the role science and technology play in our lives, both in terms of fact and possibility. Focusing on literary images exclusively would be too limiting. In light of the relatively low level of literacy that existed prior to the present century, certain nonliterary devices, such as folktale and oral history, that played a significant role in the transmission of knowledge from one generation to the next, would be too easily neglected. To call these visions "poetical" seems somewhat more appropriate in the sense that attention is turned toward the form or style of the discourse or artistic product. Yet, this too limits the scope of the current discussion: It recalls the fabulous nature of representation, while maintaining the literary and the poetical as categories or genres of fictional discourse. Representation supplies, by way of allusion, the "unpresentable in presentation itself. A concept is an image that, in its You are not currently authenticated. View freely available titles:

Chapter 5 : Walter Hancock: Narrative of Twelve Years Experiments,

Practical Reflections on the Uses and Abuses of Bath Waters, Made from Actual Experiments and Observations to Which Is Added, by Way of Appendix, a Narrative of Facts, Relative to the Physical Confederacy, in Bath, in the Year by William Baylies starting at \$

It was all meticulously written in her delightful, faux naïf style, and we could never tell the difference between avant garde and science fiction, except that occasionally the science fiction had some very human aliens in it. In fact, I believe the best fiction, whether literary or genre, has always combined powerful language with psychological and social insight and story. The way we separate genre and literature in the twenty-first century is, to my way of thinking, mostly about selling, and there is no doubt that writing in certain niches sells far better than others. What happened to the Indian Princess? What did she do? I went through a long period in college and after when I saw myself as devoted to high art. The truth is that I have always loved some high art, admired other high art, and reacted to some with a big "meh. In our present literary landscape, this often, although certainly not always, means well-written genre books. The problem with highly polished art writing is the danger of creating only static set pieces—bijoux for contemplation and admiration, rather than a river that sucks you downstream through its rapids and sluices. How is writing this book different from writing my other fiction? Occasionally in the science fiction novel, I choose to simplify language for action—but I do that for action in anything I write. This is part of the pleasure though: I delight in world-creating as much now as I did when I was five years old and my parents bought me for Christmas a miniature ranch with horses and fences and people. Much genre writing is simply sloppy—hastily written, to meet deadlines, or in the case of some of the mass of self-published material appearing now, written to satisfy personal needs of the writer. This may also explain some of the popularity of even badly written genre: Along with science fiction, I like good detective and crime fiction and I also like fantasy, if it abides by some set of internal rules. All novels, of course—and this is why genre and literature are more alike than different—create worlds, whether alien planets far far away or south central Los Angeles just after the Watts riots of the late sixties. A failing of much student writing I see is to assume a frame of reference: Genre writing gives me that satisfaction of play from my childhood. I am, at least in the initial drafting stages, manipulating the riders and horses of my little plastic ranch, and clopping them over the floor on great quests by the light of the Christmas tree. In my realistic fiction, I have mostly written about people and experiences and social action that I am familiar with. What effect will it have on the characters? How will they be changed from their ideology of non-violence? I think I sat down with the urge to play as I played as a child, but as an adult, the topics I play with tend to be issues I see unresolved in this world, and I find I can write about them more directly here, in my invented places.

Chapter 6 : Here are two examples of a lab report

Narrative Experiments: The Discursive Authority of Science and Technology. practical, the etymological and textual, and the scientific and techno-logical. What.

Saul McLeod , published Conducting a piece of research is a requirement for most psychology degree courses. Of course, before you write up the report you have to research human behavior, and collect some data. Final year students often find it difficult to choose a suitable research topic for their psychology lab report, and usually attempt to make things more complicated than they need to be. Remember to make sure your research in psychology adheres to ethical guidelines. You will also be likely to write your paper according to APA style. Lab Report Format Title page, abstract, references and appendices are started on separate pages subsections from the main body of the report are not. Use double-line spacing of text, font size 12, and include page numbers. The report should have a thread of argument linking the prediction in the introduction to the content in the discussion. This must indicate what the study is about. It should not be written as a question. The abstract provides a concise and comprehensive summary of a research report. Your style should be brief, but not using note form. Look at examples in journal articles. It should aim to explain very briefly about words the following: What does it all mean? Mention implications of your findings if appropriate. The purpose of the introduction is to explain where your hypothesis comes from. Two or three studies is sufficient. This means the studies outlined should lead logically into your aims and hypotheses. If your hypothesis is unlikely, why are you testing it? The aims should not appear out of thin air, the preceding review of psychological literature should lead logically into the aims. Use previously cited research to explain your expectations. Later these expectations are formally stated as the hypotheses. State the alternate hypothesis and make it is clear, concise and includes the variables under investigation. Write in the past tense. Only give enough detail for someone to replicate experiment - be concise in your writing. Identify any controls used, e. Say how you obtained your sample e. Give relevant details, e. Describe in sufficient detail to allow for replication of findings. The results section of a paper usually present the descriptive statistics followed by inferential statistics. Avoid interpreting the results save this for the discussion. Make sure the results are presented clearly and concisely. A table can be used to display descriptive statistics if this makes the data easier to understand. DO NOT include any raw data. The exceptions to this rule: Numbers which can never exceed 1. Percentages and degrees of freedom: Statistical symbols that are not Greek letters should be italicised e. M, SD, t, X², F, p, d. Include spaces either side of equals sign. The type of statistical test being used. If you have four to 20 numbers to present, a well-presented table is best, APA style. Clarification of whether no difference or a significant difference was found the direction of the difference only where significant. The effect size this does not appear on the SPSS output. Are your results similar or different? Acknowledge limitations, but only if they can explain the result obtained. If the study has found a reliable effect be very careful suggesting limitations as you are doubting your results. Unless you can think of any confounding variable that can explain the results instead of the IV, it would be advisable to leave the section out. Say what your findings mean for the way people behave in the real world. Perhaps you could base this on a limitation of your study. The reference section is the list of all the sources cited in the essay in alphabetical order. It is not a bibliography a list of the books you used. In simple terms every time you refer to a name and date of a psychologist you need to reference the original source of the information. If you have been using textbooks this is easy as the references are usually at the back of the book and you can just copy them down. If you have been using websites then you may have a problem as they might not provide a reference section for you to copy. References need to be set out APA style: Journal Articles Author, A. Journal Title, volume number issue number , page numbers A simple way to write your reference section is use Google scholar. Next, copy and paste the APA reference into the reference section of your essay. Once again remember that references need to be in alphabetical order according to surname. How to reference this article:

Chapter 7 : Learning from Randomized Controlled Experiments - Books & ideas

DOWNLOAD PDF NARRATIVE OF PRACTICAL EXPERIMENTS

Experimental fiction doesn't always mean writing from the point of view of a snail or naming your story "Untitled #78"; sometimes, experimental fiction means adjusting variables, measuring results, and making careful observations—the stuff of true experimental inquiry.

Chapter 8 : How to Write a Lab Report | Simply Psychology

Cagayan de Oro NARRATIVE REPORT IN SCIENCE For The Month of August Science is the intellectual and practical activity encompassing the systematic study of the structure and behavior of the physical and natural world through observation and experiment.

Chapter 9 : Project MUSE - Narrative Experiments

Narrative Experiments Gayle L. Ormiston, Raphael Sassower Meta-narrative, from the relation of the theoretical and the practical to linguistic usage.