

“Life is a Series of Tests, Some Just Count More”

The provisional logic of the test infiltrates the very core of the technological project, exceeding the range of any model or machine. The test site as proto-real marks out the primary atopolis, therefore, producing a ‘place’ where the real is put on the line, awaiting confirmation. If it were the case that technology had a finite, computable task—efficiency, minimization of labor, domination of nature—it would have destined its own finitude or homeostatic completion. Instead, technology ensures its own evolving perpetuation by positing, as its purpose, an infinite testing severed from any empirical function. In effect, this means that an elliptical circuit has been established between Testing and the Real; a circuit so radically installed cancels the difference between the test and ‘the real thing.’

-Avital Ronell, preface to *Finitude's Score*¹

Test/Use: Real Test and Ideal Test

The phrase “life is a series of tests, some just count more” beckon from a subway-car ad for Kaplan Testing Services. It is worth dwelling on because, in the spirit of *Jokes and their Relation to the Unconscious*, it hides more truth than humor. Life, a series of tests, might be nothing but tests or maybe a life merely punctuated and propped up by tests. Continuous or discrete. The ad hints that all life is a continuous circuit of tests, one embedded in the next until the final test of death or judgement day. In this still and sinister voice it suggests that life *is* a test, no longer life but a neutral undead movement dotted with discrete test-events, some of which “just count more.”

Beneath this phrase, at the bottom of the poster, are the ubiquitous acronyms of student life: LSAT GMAT GRE MCAT SAT TOEFLE USMLE. Kaplan, of course, does not administer these tests, but prepares you for them. If life used to be a series of tests that went, e.g. PSAT-SAT-GRE-MCAT, etc.,² then Kaplan extends this series to infinity by adding an unspecified number of test-tests, practice tests in between these already traumatic acronyms. This excessive series of tests that Kaplan administers are not a unique phenomena in the world of testing. They participate in the series of tests that go under the heading of simulations: car-safety tests (cf. J.G. Ballard), nuclear weapons testing, computer simulations of nuclear weapons testing, computer models of the stock market, the weather, the earth’s surface, the universe.

¹ Ronell, Avital, *Finitude's Score—Essays for the End of the Millenium*, Lincoln: University of Nebraska Press, 1994.

² This series is extended further with the addition of every new professional test: ACT CPA DAT ECFMG NCLEX OAT TOEIC USMLE etc. Indeed, recently California has begun to recognize preparation for the state Bar under the sign of Kaplan, as much as that of Hastings.

Each of the tests in this list participates in the problem that Ronell accentuates: infinite testing. Consider the tests for the accuracy of nuclear missile guidance systems. From Donald Mackenzie's *Inventing Accuracy*:

the basic dilemma here is not new: The instruments to be tested are the best which precision production technology can turn out and to conduct a meaningful test the tester is confronted with the necessity to provide a test method, a standard, which is better.³

Every test of the accuracy of the missile guidance system attempts to technologically stabilize and standardize the ideal event known as “use.” “Gyro test tables are placed on pillars and sunk into solid rock, but even so, ‘microseisms and human cultural activities’ interfere.” The background against which the test measures performance is precisely the “‘place’ where the real is put on the line, awaiting confirmation.” In this case, the place of the real descends directly into the earth, deeper and deeper, in infinite flight from ‘human cultural activity.’ Or consider the example of south pacific island nuclear testing, in which real bombs destroy real islands. The island, always a fraught non-space beloved of economists as a test-site for society, a tax-haven for capital, or a sex-haven for Victorian desire, is also an *atopos*, an off-shore world safe from technology and information. This “test” cancels the distinction between test and use, simply because it is already real— a nuclear explosion is a nuclear explosion. The US government still promises the Bikini Atoll Islanders a clean ‘scrape’ of the sandy surface of their ex-homeland⁴ to make it habitable, still promises that ‘human cultural activity’ has not finally been locked in solid rock underneath a test site for nuclear weaponry.

But this infinite deferral of reality does not imply apocalypse, which we will put off until the end of the paper. The test simply precedes the event, supports it and in MacKenzie's language ‘constructs’ the very idea of ‘real use.’ Meanwhile reality simply moves to the next place in this series of tests. Reality is, like the shiny object that Alice spies, “always in the shelf next above the one she was looking at.” The Bikini islanders are relocated from one island to the next every few years, as what used to be home fails each subsequent test for toxicity. But the difference at stake here is not ontological, not the difference between the real and the copy, but a question of the border between the copy and the simulacrum— not between test and use, but between ideal test and actual test, test and practice test, taste-test and taste. The island test site, the non-space of ideal testing, is not ‘nature,’ not now at least, if it ever was. In the Age of the World Picture, the

³ quoted in Donald MacKenzie *Inventing Accuracy*.

modern world is everywhere subject to testing, so if the Bikini Islanders don't make it home, then Kaplan can at least prepare them to take the TOEFLE at one of several sites in Fiji, Indonesia, the Maldives, New Zealand, Papua New Guinea, the Seychelles, the Solomon Islands, Tahiti, Tonga, and Vanuatu.

In this world of infinite testing, Kaplan's series of test-tests lead to another series: the test-events of The Educational Testing Service of Princeton NJ. These tests, the "real thing" are the ideological place markers of technocracy⁵, what Marx dubbed the "bureaucratic baptism of knowledge, the official recognition of the transubstantiation of profane knowledge into sacred knowledge." The actual test, the official test, administered with all of the ritual and ceremony of a baptism (no. 2 pencils, a full nights sleep and a hearty breakfast) by ETS, is ostensibly the scene of qualification, baptism for entrance into the sacred world of professional education. In their 1970 book *Reproduction*, Bourdieu and Passeron pinpoint the ideology of the test as a reproduction of the social relations that issue from and depend on a the school system as an essential node in these relations. This reproduction is nothing less than the justification of a cultural heritage and established order.

Nothing would better serve this function of sociodicy than formally irreproachable tests which could claim to measure, at a given point in time, the subjects' aptitude to occupy vocational posts, while forgetting that this aptitude, however early it is tested, is the product of a socially qualified teaching and learning, and that the most predictive measurements are precisely the least neutral ones socially.⁶

Thus the punch-line of the same Kaplan ad that some tests just count more. Life is in fact something more like calculus class, in which your final grade is at stake. In the math class of life, the time in between tests is neutral. Perhaps you were taking notes, or passing them, in any case, it matters little to Kaplan what you were doing between tests precisely because Kaplan knows that the test is ideological. It does not matter whether you were absent from class, because it is all in how you take and retake the test, how you apply the science of testing. The point is to score higher, not to know more. This kind of test-testing is predicated on a statistical promise of risk reduction. At the same time that the tests paradoxically prove little more than a certain skill at

⁴ Radio and newsreels gave the world its first "live" look at the stunning power of the atom. Just days later a Paris designer was inspired to name his shocking new bathing suit for the far-off atoll. <http://www.sltrib.com/96/JUL/14/twr/00140928.htm>

⁵ NYT sept 28, 97 ETS has gone from 348,000 tests in 1948 to 12 million a year in 96.

⁶ Bourdieu, Pierre and Passeron, *La reproduction : elements pour une theorie du systeme d'enseignement*, Paris: Editions de Minuit, 1970, [English Translation: *Reproduction*, London: Sage Publications, 1977, p 163].

taking tests, the practice-tests promise to enhance that skill. The answers are unimportant, so much so that another Kaplan ad reads “It’s not like we’ll give you the answers. Well, yes it is.”

The Subject of the Test

The question that faces us, however, does not yet have an answer. No cheat sheet on social theory will explain why the test is more than simply a locus of social reproduction. For one thing, tests are no longer administered only by states, they are also commodities— a special kind of commodity. Not just the home diagnostics, genetic tests, and laboratory tests that will constitute the latter half of this paper, but even the standardized exam has become a peculiar kind of internationally circulating commodity.

That we pay to take these tests, that we even pay to *practice* to take these tests suggests not so much a vulgar Foucaultian domination and surveillance, but rather a structure in which individuals desire both the ability to choose the test *qua* commodity and the recognition that test confers. Social reproduction in the late modern world no longer obliges individuals to kings or states as the unit of reproduction. Instead it extracts a tithe to an uncertain promise of world-wide techno-economic progress. The power of the test lies in the promise of technoscientific rationality as a character in the drama of this progress. What then is the answer to this subject of the test, this progressing, if not progressive test-taking individual? Is the subject of the test still the alienated Marxist subject, or the disciplined Foucaultian subject? What if we risk mixing in the genetics and information sciences of the mid-20th century that have made repeated and partially successful attempts to reduce the human subject to language and information, to a problem of coding? What kind of subjects are the homeless bikini islanders, when they are subjects of nuclear tests, TOEFLE tests or at-home cholesterol tests? Or is the world now so different that the subject of late-modern technoscientific progress might not be a subject at all? Is their a social and ideological location to the historicity of subjectivity after the ingress of the behavioral sciences, sociobiology, informatic genetics, and neo-liberal individualism at the end of the second millenium?

In Althusser’s famous *Ideology and Ideological State Apparatuses*, he asserts that “all scientific discourse is by definition a subject-less discourse, there is no 'Subject of science' except in an ideology of science (171).” In Althusser’s drama of recognition and interpellation, language plays the lead role, cast for its ordinariness and ubiquity. That there is no “subject of science” is

the corollary to the assertion that all language is ideological because one is only a subject when one is in language, i.e. in ideology. While the statement may be vague, it is hardly outrageous, and leads quite naturally to the assertion that a science of ideology would require that “from within ideology [i.e. language] we have to outline a discourse which tries to break with ideology, in order to dare to be the beginning of a scientific (i.e. subject-less) discourse on ideology (173).”⁷

Cryptic, perhaps, but what I want to draw out of it is the possibility of understanding the test as a moment of recognition or interpellation into just such a discourse. In the original formulation, interpellation happens when an individual is ‘hailed’ by someone, (usually either a policeman or God representing the state and religion respectively), and the individual then recognizes him or herself as the subject of this hailing, and voila: ideology. The test functions just this way, but it is less and less a function of the state, and more and more a function of something we rarely hesitate to call science. That is to say, tests serve the ‘ideological’ function of interpellating ‘concrete subjects’ into a discourse without subjects that is, in the language of Althusser, and by virtue of its scientific character, outside of ideology. This ‘misrecognition,’ if you will, of Althusser’s terms science and ideology is strategic on my part. I have no intention of testing Althusser’s theory, and yet I also have no intention of developing an entire system of social reproduction based on testing. But in the absence of dogma or encyclopedophilia, I intend to use, or perhaps, abuse Althusser to make some empirical points about testing a bit clearer.

So when the modern test hails the subject, it does so with technologies that cross chemistry, biology, statistics, psychiatry and engineering to deduct information from the subject and send it into circulation. The quantified testee is no longer a subject, but increasingly becomes unevenly encrypted, an ambiguous and noisy collection of information, jacked in, downloaded- a statistic, as in the warning “Don’t become a statistic.”

Rather than a subject of language, the subject disintegrates into a series of scientifically defined quanta, an essence no longer hailed only in a speaking body, but in databases, documents, records, results, statistics. Bodies are not the limit and ground of language, but only one possible site of transmission, transcription and transplant. This process of becoming-information has been suggested with respect to language⁸, to health, to risk⁹, and especially to life¹⁰. Historically

⁷ Althusser, Louis, "Ideology and Ideological State Apparatuses," in *Lenin and Philosophy*, New York: Monthly Review Press, 1971.

⁸ Lyotard, Jean-Francois, *The Postmodern Condition: A report on knowledge*, Minneapolis: University of Minnesota Press, 1984 [1979].

⁹ Beck, Ulrich, *Risk Society*, London: Sage, 1992 [1986].

speaking, the transformation wrought on individual, science, and society by statistics and probability has been well documented by Lorraine Daston, Ian Hacking, and Ted Porter. In *L'État Providence*, François Ewald reminds us that

“Quetelet’s Social Physics had introduced a series of decenterings into the way one considered things, and their relationships; it proposed a mode of thinking completely foreign to the moral, moralizing mode which underpinned and was supposed to validate the juridical notion and practice of responsibility, and yet it did this without entering into conflict with juridical practice.” (201)

Demography, econometrics, opinion polls, and insurance formed the basis of these changes. Add to these tools the standardized test, the clinical trial, fetal and newborn screening, mandatory drug and AIDS testing, and the growing market for home diagnostics and we begin to see how the notion of a calculable risk has come to supplant juridical responsibility. Indeed, risk has only recently been something that flesh and blood bodies have acquired, prior to that it was financial and economic, bodies knew danger. Risk then is an apposite starting point for the dispersed non-subject of science and techno-economic progress. For every choice and action in the world there is now an associated risk¹¹. Even though risk is not real, anything *can be a risk*. Risk, says Ewald

once it appears, has a tendency to proliferate. It obeys the law of all or nothing. It knows nothing of the binary divisions of classical juridical thought--permitted and prohibited, legal and illegal. All it knows is the endless chain of discrete quantities.¹²

Risk societies, in effect, live on information, on all possible forms of information; they are insatiable; no mark, no sign is for them indifferent; informatics assures their deduction-in-advance (prélèvement) and their distribution, as the heart circulates the blood through the organs

Risk thrives on probability and statistics, the domain par excellence of information science, genetics, psychology, chemistry and physics. Statistical calculations and probabilistic representations of risk are the *sine qua non* of insurance companies, of clinical trials, and of genetic linkage studies. What better test of risk society than the test for risk: in particular genetic testing for susceptibility to breast and ovarian cancer.

The Genetic Test for Risk: BRACAnalysis™

The Myriad Genetics Corporation was the first biotech firm to bring a diagnostic kit for the BRCA 1 and 2 genes to market in 1997. The BRACAnalysis™ test for breast cancer susceptibility genes is available through any licensed healthcare practitioner and is a rapid full

¹⁰ Evelyn Fox Keller, Donna Haraway, Rich Doyle

¹¹ The science of decision analysis, among others, along with the mathematics of Bayesian inference, is notorious for structuring the world according to risk, or, more precisely, by associating a percentage with each statement or belief. Everything falls between 0 and 1.

¹² Ewald, Francois, *L'etat providence*, Paris: Grasset, 1986. Translation mine.

sequence analysis for the specific known mutations in the BRCA 1 and 2 genes. The test is based on linkage analyses that have been performed over the last 10 years, including several large studies partially funded by Myriad. In the ubiquitous molecular biological language of language, Myriad explains it thus:

A gene is like a chapter in a book. The genetic analysis for BRCA1 and BRCA2 mutations is similar to proofreading every word in the chapter. A mutation can be a single misspelling in any spot.

Given the hermeneutic vicissitudes of genetic linkage analysis, the misspelling for which Myriad tests only applies to women of Ashkenazi Jewish descent who have a family history of breast and ovarian cancer, a fact that is duly noted by Myriad Genetics. The party line, according to Myriad, is the following:

If you are a woman and of Ashkenazi Jewish descent and you have a history of breast or ovarian cancer in your family, then a positive result (i.e. the presence of a mutation in the BRCA1 or 2 gene) means that you have an 82% chance of getting breast cancer by the age of 70.

This statement is based on research on 214 Ashkenazi families with a history of breast and ovarian cancer. Because a genetic linkage study works backwards from phenotype to genotype, this study makes a claim which might more accurately, albeit simplistically be stated as:

if you are under 70, an Ashkenazi Jew and a woman with breast or ovarian cancer, then you have an 82% chance of having (a mutation in) the BRCA1 gene on Chromosome 17q.¹³

That these two statements are made analogous by the test is the direct result of three related assumptions— that disease is genetic, that genes are information and that the information is corrupt, misspelled (i.e. that there is an *error*).¹⁴ This assumption happens at a disciplinary and quasi-cultural level, not at a mathematical, statistical, empirical, or clinical level. That is to say, this research is not directed at the proximate cause of cancer, i.e. the function of a supposed tumor-suppressor gene that has been mutated, but rather simply towards the linkage of a sequence on chromosome 17q with two linked phenotypic traits: Jewishness and family history of breast cancer. Race is used here a marker of a family and matrilineal religion that can be adequately

¹³ Myriad Genetics' home page, www.myriad.com, lists much of this information, for the papers upon which the test is based, see: Easton, et. al. "Genetic linkage analysis in Familial Breast and Ovarian Cancer: Results from 214 families," in *Am. J. Hum. Genet.* 52:678-701, 1993, and Easton, et al. "Breast and Ovarian Cancer Incidence in BRCA1-Mutation Carriers," in *AM. J. Hum. Genet.* 56:265-271, 1995.

¹⁴ see Canguilhem, Georges, *The Normal and the Pathological*, New York; Zone Books, 1991, p. 275-89.

correlated with the presence of breast and ovarian cancer in family histories and medical records. But the corollary—that Ashkenazi Jews are more likely to have breast and ovarian cancer—is a statement that has no clinical research behind it. Such research would require testing sample populations around the world by matrilineal religion—something not everyone has.

In any case, the claim is made with the force of statistical certainty because, by the rules of the game, there is nothing wrong with the science of the genetic linkage, or the technology for sequencing the mutations that supposedly cause cancer. The mistake comes at the level of the reversal of the two statements above. This reversal works because of the assumption that disease is genetic—and in addition that Jewishness isn't—and that it can be understood as misspelled information. Without these assumptions, a third statement, such as the following would be equally plausible:

“If you are a woman with a history of breast cancer or ovarian cancer in your family, and you carry a mutation in the BRCA1 gene on chromosome 17q, then you have an 82% chance of being Jewish by the time you are 70.”¹⁵

Of course, pending a breakdown of the entire biomedical establishment's modus operandi, this is unlikely to occur in a clinical setting.

But what can, and does, happen in the clinical setting, or in genetic counseling, is that the subject of this test will be given a crash course in statistical risk analysis based solely on the information that a positive result equals an 82% chance of getting the disease, as opposed to the 'normal lifetime' risk of 12%. This instead of an explanation of what genetic linkage analysis actually finds. The difficult meanings of “hereditary” and “genetic” remains unquestioned.

Hailed by the positive test result, the patient is interpellated into a domain of risk management that requires associating all action and every choice with a risk: you have X percent chance of dying in a car crash, Y percent chance of having a meteor hit you, etc. When the world is thus re-described, a space of choice and action open up before the patient. It is a world of normative procedures, the choice of which depend on an articulated but non-visible set of research that was, at its outset, descriptive. The patient makes choices based on the codification of a description of

¹⁵ Please pardon my abuse of probability measures for rhetorical effect. Properly speaking, the chance of being Jewish would not be 82%, but is arrived at by determining the obverse of this statement using Bayes theorem (and I am grateful to Wynship Hillier for assistance in this). The proper percentage would be represented as $(.82a + (1-a)b)$ where a is the probability of testing positive given

a set of social relationships in which he or she plays no part. It is, in essence, social reproduction according to ‘science’ not ideology—welcome to the discourse without a subject. Of course, I am far from suggesting that such ideology "works" perfectly, or that the world has been reduced to a mechanical garden, operating with only the occasional pollination of actual individuals. But everything happens as if this were the case.

So, once the decision has been made (e.g. I am at risk, I will get breast cancer unless...) a series of new tests and risk management regimes are laid out. Myriad offers three courses of action for the BRCA1+ person: Lifestyle Modification, Therapeutic Intervention and Hormone therapy.

The two latter choices— Therapeutic intervention and Hormone therapy— are recommended to BRCA1+ women as if they had been diagnosed clinically with breast cancer. Now 82% equals certainty. To be sure, these procedures are recommended to many women who, though they might not have the mutation, test positive for all the other “risk factors” associated with the disease. They are preventive procedures, but preventive means something specific in this case: preventing death by breast cancer, not preventing breast cancer. The distinction may seem pointless for the concerned patient, but for our purposes it is significant: it signals a change from a consciousness— a subjectivity— of “having a disease” to one of “testing positive for a disease.” Disease manifests itself in an informatic and symbolic realm *before it manifests itself as signs on the body*.

In the first option— Lifestyle modification— the patient is refigured as a “smart consumer of health.” This includes modifications of:

Age at first pregnancy: Data indicate that women who deliver their first full-term baby before age 30 are less likely to develop breast cancer, and women who have given birth are less likely to develop ovarian cancer.

Body weight: Individuals who are 40% or more overweight may have an increased risk of breast and ovarian cancer.

Exercise: Physical activity during a woman's reproductive years may provide a protective effect against cancer risk.

Tobacco use: A woman's risk of dying from breast cancer increases by 25% if she smokes cigarettes.

Diet: Recommendations for a balanced diet include foods low in fat and rich in fiber and antioxidants (vitamins C, E, and beta carotene); green leafy vegetables; soy products; and broccoli, cabbage, brussels sprouts and other cruciferous vegetables.

that the testee is Ashkenazi and Has a family history of breast cancer, and b is the probability that the testee has a mutation, despite having tested negative. A derivation is available on a napkin in my filing cabinet.

Alcohol: Some epidemiological studies suggest that there may be a link between alcohol consumption and the development of breast cancer, although a causal relationship has not been proven.¹⁶

Here, preventive medicine fits snugly into a regime of bodily control that would make Foucault proud— a nation of thin, athletic, non-smoking, teetotaling, women producing children before age thirty, and cooking low fat high fiber diets rich in antioxidants and cruciferous vegetables.

But to reiterate: the test is not only an organ of panoptic discipline and surveillance, though that aspect is quite obviously present. In this instance, there is a specific institution that administers the test— healthcare *qua* welfare state. But this is increasingly less and less so. Welfare state institutions tend more and more towards a certain direct access to the individual that looks less like welfare and more like marketing. Myriad's homepage targets individuals in the same way prescription pharmaceuticals are now marketed directly to consumers. The principle terms in this late modern test are decision and choice— terms that economics shares liberally with the information sciences of the mid-twentieth century. In order to give some specificity to the late modern test, then, it will be necessary to examine the design of decision and the character of choice

Design of decision making

The design of the packaging and instructions of tests, especially home diagnostic tests, is the primary point of contact for the subject, they are the “hey you!” of the interpellating mechanism. Following instructions is therefore the hailing frequency of the consumer test. Obeying them would be, in what Judith Butler has called a “guilty” relationship to the law.¹⁷

an act that is, as it were, conditioned by both the ‘voice’ of the law and by the responsiveness of the one hailed by the law...[and] determined... by neither unilaterally or exhaustively.

The procedures and instructions that accompany every test are the product of a set of design discourses that are fundamentally interested in generalizing a notion of designed and programmed technologies to all aspects of production and consumption¹⁸. This can perhaps best be seen through a series of examples.

¹⁶ *ibid.*

¹⁷ Butler, Judith “Conscience doth make subjects of us all,” in *Yale French Studies* 88, 1995, p. 7.

¹⁸ Design discourses includes Simon's *Science of the Artificial*, Papanek's *Design for a Livable World*, Nader's *Unsafe at any speed*, as well as the more or less architectural wing of product, package and utensil design.

Consider ColoCARE by Chemtrak \$6.69. A simple home test to check for Blood in the stool, to provide early warning signs of colorectal disease. It includes 3 ColoCARE pads, 1 result card and 1 instruction sheet.

The marketing apparatus is designed to get us inside the box, but interestingly for these tests, marketing takes the form of an insistence on simplicity of procedure

“easy to use”

“No messy sample handling”

“results in less than a minute”

And on the back offers a graphic portrayal of this simplicity [Figure 1]

Step 1. After a bowel movement place the ColoCare™ Pad into the bowl.

Step 2. Observe ColoCARE™ Pad. Note any color changes on result card.

Here graphic design also plays a crucial part in the procedure, as the instructions use isotype universal signs for each step. Like the signs for male and female bathrooms that reinforce sexual difference in an iterable pictorial and omnipresent way, these images are designed to travel internationally (even though they will not in this instance, given the amazing variation of toilets and their absence around the world-- the test just wouldn't work in a German toilet for instance).

But if the test really is so simple, then the question arises: why is the injunction to “please follow instructions carefully” everywhere on and inside the box? Not only this, but the first instruction, creating a recursive loop, is to read all the instructions. This is not a bait and switch— the procedure really is easy, just as promised on the outside of the box— but such reinforcement serves the function of making sure the program is executed correctly, that there are no hidden bugs in the code.

The test is, as it states on the package “not a confirmatory” it is only for “in-vitro diagnostic use,” or in this case, in-porcelain. The procedure has two outputs: continue as before, and call your doctor immediately. Neither of the two options really *requires* a test of any sort, but the very act of following instructions and exteriorizing choice into a technology of risk “screening” testifies to the crypto-ideological function of the test, that is to say, the test as interpellation into a discourse without a subject.

This function is more complex in one of ChemTrak's other products: the Cholestrak™ Home cholesterol test, which boldly explains that "High cholesterol can be the cause of Heart Attack and Stroke, But it can be controlled. Just follow these simple instructions:

[Figure 2]

Step 1. requires only one or two drops of blood from the fingertip

Step 2. Wait 2 minutes and pull the side tab to start the reaction

Step 3. In 10 to 12 minutes the end window turns green

"Read the test just like a thermometer and refer to the chart to interpret your cholesterol level." "In just minutes you'll know if you are healthy, if you need to modify your lifestyle risk factors, or if you should consult a physician."

Two separate brochures help you understand the results of the test. Three categories— Desirable, Borderline-High, and High— separate out the field into

those who can "repeat the screening test in 12 months,"

those who should "talk with your doctor,"

and those who need to "ask your doctor for advice."

In each case there is the specter of "associated risk factors," High blood pressure, cigarette smoking, family history of heart disease, diabetes, blood vessel disease, obesity (more than 30% overweight), being male, and inactivity. Since anything can be a risk, everything must be a risk, however insignificant, thus "being male" is a risk for heart disease only because more men than women die of it. How being male might have something to do with inactivity is left as an exercise for the reader.

By virtue of this design, Cholestrak installs itself firmly in the life of the testee, because it refuses to answer yes or no. The middle aged man who has "desirable" levels of cholesterol is not free of heart disease, but rather, safe until the next test; the person with high cholesterol is not diseased, but needs more testing. The procedure extends forward in time from the test to a perpetual self-monitoring and daily, systematic avoidance of risk factors much in the same way that testing positive for the breast cancer mutation installs a regime of risk management in the life of the BRCA1+ patient. Indeed, to add insult to injury, Myriad now offers a test called CardiaRisk™ that tests for a suspected gene in heart disease.

Pregnancy Test

But all of this procedure and instruction following is humbled before the simplicity and certainty of the Pregnancy Test. By 1990, the over the counter pregnancy test was as common a drugstore item as condoms, and usually, mockingly found in the same display. With names like ClearBlue Easy, Fact, FactPLUS, First Response, Acu-test, Be-Sure, Tru-test, Sure Check, Precise, Choice, Signal, Affirm, Answer, Confirm, Verify, pregnancy tests virtually answer the question before you open the box. The majority of this bewildering array of brands is marketed at the young woman who wants to know that she *is* pregnant, but at least one company, Quidel Corp. trades on the economic differential of hope and fear by selling one kit called Conceive™ at 9.99 near the ovulation predictors and one kit called RapidVue™ at 6.99 near the condoms. Same kit, same technology, different outlook¹⁹.

[Figure 3]. Above all, these tests all boast accuracy, speed, simplicity: “You simply can’t take an easier pregnancy test,” “Results in under a minute,” “Only one-step.” The tests are indeed easy to use, requiring only that you uncap a standard plastic stick and pee on it. They are also fast—in most cases results appear within 1-3 minutes. All of the tests use the same semiotic apparatus for translating the results: two small windows, one line equals not pregnant, and two, pregnant.

The home diagnostic test is first of all, a product, one commodity among others in the pharmacy. Like the cosmetics in the next aisle over, tests sell a stylized life to be consumed; they produce a consumer as much as they market to one. But where does the difference lie? Cosmetics are as much a test as Confirm™, what with perfume testers and mirrors to confirm your made-up identity. But the home diagnostic test (pregnancy, ovulation, glucose, cholesterol, occult blood, HIV, etc.) is different by virtue of the primitive feedback loop it installs in the testee. It opens a space where reality is put on pause: a space of decision²⁰. In this space the test is in dialogue with the testee, offering both response and responsibility for risk, pregnancy, disease, etc.

¹⁹ Forbes, August 29, 1994. “The market divides between women who want babies and women who don’t... People buy hope. In our case, they pay more for hope than for possible relief.” Steve Frankel, CEO, Quidel.

²⁰ Three notions of decision, at least, seem to intersect here: 1) utilitarianism/neo-classical: maximizing utility/economic man, the decision made under perfect conditions, the classical rule-based ethical ideal 2) Herbert Simon: ‘satisficing’, administrative man, choices made under incomplete information, or temporal constraints, i.e. bounded rationality and 3) a post-structuralist hobby-horse undecidability as the experience of responsibility, decision as the closure of meaning. See: Keenan, Thomas, *Fables of Responsibility*, Stanford: Stanford University Press 1997; DeMan, Paul, *Allegories of Reading*, New Haven: Yale University Press, 1979; Simon, Herbert, *Administrative Behavior*, New York: Macmillan 1957.

As I've suggested above, risk societies distribute responsibility and blame according to a calculus that begins in the 19th century with insurance, and increasingly comes to structure everyday life. Ulrich Beck describes it also under the sign of individualization:

The private sphere is not what it appears to be: a sphere separated from the environment. It is the *outside turned inside and made private, of conditions and decisions* made elsewhere, in the television networks, the educational system, in firms or in the labor market, or in the transportation system, with general disregard of their private, biographical consequences.²¹

Individualization of life situations and processes thus means that biographies become *self-reflexive*; socially prescribed biography is transformed into biography that is self-produced and continues to be produced.

Individual biographical choices, even when there are no alternatives, must be made: the pregnancy test is the signed and dated confirmation of this biography. Fertility, family, (single) motherhood are all plot options in the life story. And since baby will need to have a biography of his or her own, this is why Confirm™ Pregnancy Test offers a keepsake result [Figure 4]. In a seeming mockery of the simplicity of the pregnancy test, the keepsake requires no less than 4 steps to complete, the final one being “4. Now you are ready to share and save the good news!” Page one of the biography begins with the positive test result. This baptism by testing may or may not be taken as a joke, but the very serious relationship of reproduction to the future that it signifies is captured in the pitch that graces nearly every test: “Find out early and give your baby a healthy start!”

Abortion politics barricade all sides of the pregnancy test. For the tests that trade on hope, the role of the test as a pregnancy termination aid is carefully contravened by substituting the rhetoric of early indications and healthy starts. Public health is conducted not in the name of a healthy public, but of responsible mothers, mothers who test. Like the mandate to test for AIDS, testing for pregnancy descends from an institutional set of decisions that lie across public and private spheres, indicating a constrained public sphere within which mothers make decisions between alternatives that don't exist— the irony of a politics that can install an opposition between choice and life. The pregnancy test is also a continuation of the war of contraception and fertility by other means, an escalating exchange of prosthetics (some for the prevention of pregnancy, some for the insurance of it) whose apotheosis is the pregnancy test. It is in this sense that a pregnancy

²¹ Beck, Ulrich, *Risk Society: Towards a New Modernity*, London: Sage Publications, 1992 [1986]

test can be pass/fail, and that its simplicity must be repeatedly emphasized. It's so easy, they seem to say: you can't fail.

Immunoassays: recognition and interpellation in miniature

Up to this point I have tried to approach testing somewhat horizontally, like the neurotic on the couch, if not quite the naturalist on a stroll. But for the remainder of the paper I want to take just one type of test and drill into the bedrock of its political and technoscientific character in order to try to show just how ubiquitous, how central, and how *specific* testing has become at the end of the millennium. I will do this by re-taking the pregnancy test, which is a species of the genus of test that are called immunoassay tests, and by asking what exactly it measures and how we come to believe it. And if I lead you from pregnancy to apocalypse, do not be alarmed. Because this is only a test.

Consider the obscure locution of the phrase that markets nearly every pregnancy test: "Use as early as the first day of your missed period." Does this phrase mean to suggest is that the test will measure the presence of a new life? Or that this substance called life leaves traces that modern technology can label and display quickly, automatically, like the footprint of a tiny homonculus?

Of course, the pregnancy test doesn't measure life, it measures a glycoprotein hormone called human chorionic gonadotropin (hCG). This hormone appears after an egg implants itself in the uterine lining. Levels rise sharply between 4 and 8 weeks after implantation, then level off and eventually decline until term. Before four weeks (i.e. before the beginning of the cycle that includes the "missed period"), and after pregnancy, its presence is nearly impossible to detect, making hCG a quite suitable indication of pregnancy, or something very like it. But hCG is not a sign of life, as if we knew what that were, but rather a punctuation mark in the menstrual cycle. Not a missed period but an exclamation point of sorts, part of a cycle of reproduction that does not begin *ex nihilo*, but is an interruption of an existing cycle and an institution of a new period, marked by conception and birth. The irony lies in being able to know if you've missed a period, precisely that other visceral and traditional signal of pregnancy.

But perhaps in our era of the "translation of the world into a problem of coding,"²² no one will bat an eye at the substitution of hormone for code for code for life. Everything that previously went

²² Haraway, "A manifesto for cyborgs," in *Simians, Cyborgs and Women*, London:Routledge, 1989.

under the sign of life, labor, and language, increasingly subsumes itself under the signs of information, coding, communication. Like genes and antibodies, hormones are theorized as information and communication networks. They are 'messengers' sent by one gland to "tell" cells and organs what to do. They communicate functions, their chemical specificity is their message. Like the genetic "code" much of the language of hormones remains opaque, uninterpreted, encrypted. What is unambiguous is the assertion of control and regulation in fertility and reproduction. What remains uncertain is the micro-linguistics of receptors, messaging, and the complete cycle of carefully timed communication that allows reproduction to take place, as well as the relation to and between the 'languages' of immunology and genetics, and the various Rosetta stones and towers of Babel that populate this contemporary molecular biology. The complexities of reproduction—ovulation, spermatogenesis and oogenesis, pregnancy, not to mention sundry and vague hypotheses about desire—allegedly depend on unambiguous and strictly timed communication of information. The relationship of fertility and reproduction to the future is here refigured as a question of writing, i.e. regulated communication and information. Testing records, decodes, translates.

In one of many of the perversities of biotechnology, the pregnancy test accomplishes all of this not by simply chemically recognizing hCG, whatever that might mean, but by harnessing an externalized immune system to do that work for it.

Pregnancy tests are a class of immunochromatographic assays rely on the specificity of antibodies to produce or translate a signal. The test strips have three sections treated with monoclonal antibodies specific for hCG [Figure 5]. The first set, which has colored latex attached to it is mobilized by the urine sample. If hCG is present, it will bind with the specific mobile antibodies at the tip of the stick, which will then bind to the immobilized antibody in the positive circle. The remaining antibodies bind to the second set of immobilized anti-specific antibodies and show up in the second circle. If the test is negative, meaning that there is no hCG present, the mobile antibodies have nothing to bind to, and therefore bind only to the anti-specific antibodies in the first circle.

The specificity of immunoassays is their power. Relying on the complexity of immunity and cellular specificity they have revolutionized the test, made the very tiniest of signs amplify into a recognition and unambiguous signal of presence and quantity. This notion of specificity is, like many of the theorizations of the immune system, an anthropomorphized notion of recognition.

Antigen specific lymphocyte clones produce an antibody that can “see” and “recognize” an intruding antigen and destroy it. The immune system can ‘learn’ and ‘remember’ antigens it has “recognized.” Immunoassay tests translate the presence of a molecule, perhaps one intended for another cell, into the signal of a process in the body. The test confers identity on molecules, interpellating them even, making them into subjects who speak a language not their own.

Because we have already ventured certain excesses in this ventriloquistic language, this prosopopeia of the test, perhaps we can once again outline an entire theory of infrastructure and superstructure inside the body, a vital whole to rival Marx’s social whole. It would have all the elements of a Hegelian master-slave dialectic, molecules desiring to be recognized by one another, an evolutionary development of molecular consciousness, cunning reason, absolute spirit. Molecule, that night. Hormones circulating, cells exchanging, a complete confusion of levels inside and outside the body would result from such a playful re-rendering of anthropomorphic immunology and endocrinology. Recognition would turn on both the ‘proper’ function of a hormone as a message to a cell or organ, and on the ‘recognition’ of a hormone by an instrumentalized immune system, prosthetic recognition, tele-recognition, contract recognition. But, more importantly, what if a molecule were *mis*recognized as another? what if the molecule misrecognized its relationship to its specific antibody, or its proper destination? What if it believed that its function was other than that which the test recognizes it as being? The test would render up a result that denegated the molecule’s role within the body; an event that would be called, appropriately enough, a false-negative (or false positive— false consciousness at any rate). Yes, I would suggest that misrecognition is what is most pressing in our study of the test. So let us follow the hormone, and see that we recognize it, because as it turns out, the fate of the whole world depends on it.

Testing the World

A tantalizing quotation:

“What we fear most immediately is not extinction, but the insidious erosion of the human species. We worry about an invisible loss of human potential. We worry about the power of hormone-mimicking chemicals to undermine and alter the characteristics that make us uniquely human—our behavior, our intelligence, and our capacity for social organization.”²³

²³ Colborn, Dumanoski, Myers, *Our Stolen Future*, New York: Penguin Books, p. 235.

The fate of the world, the fate of the human, rests here in the misrecognized molecule, in particular, misrecognized by the human endocrine system. *Our Stolen Future* [Figure 6] is our passage from the womb to the world. Published in 1996 and billed as “picking up where Silent Spring left off,” this book is “a scientific detective story” about the “real consequences” of the environmental degradation decried by Rachel Carson in 1962. It interests us precisely because these “real consequences” are none other than the harmful effects of substances that allegedly mimic hormones—PCBs, DDT, dioxin, HCB, herbicides, fungicides. The harmful effects, according to *Our Stolen Future*, are disruptions of the reproductive systems in animals and humans, resulting in lowered sperm counts, abnormal development, hermaphroditism, feminized males, and masculinized females, sterility and infertility²⁴.

Our Stolen Future is "a cautionary tale," a fable, a political call to action. Outside of War, apocalypses have regularly been imagined by environmentalists, to whom it falls, and who have gladly shouldered the burden, to pathologize progress, lobby for the extension of rights to animals and nature, and imagine a disaster that transcends the mere actions of mere individuals. *Our Stolen Future* triumphantly declares itself at the next wave of environmentalism. Though it may or may not find a home amongst the contentious political spectrum of environmentalism, it makes a rhetorical play to mobilize a specific kind of apocalypse as a result of environmental degradation. It makes an environmental apocalypse a part of the body, inseparable, invisible, insidious. It makes the misrecognized hormone the seventh seal.

Following the hormone a bit further we find that misrecognized molecules and molecules out of place are the specialty of Strategic Diagnostics of Chapel Hill, North Carolina [Figure 7]. They produce a variety of tests that rely on exactly the same automated immunchromatographic assay techniques as the pregnancy test, but this time for the detection of hazardous chemicals such as PCBs, DDT, dioxin and benzene in soil and water. The tests are simple, accurate and fast, with names like RapidChek® and EnviroGard™. Just like the pregnancy test, RapidChek® and EnviroGard™ use antigen-specific monoclonal antibodies and an enzyme-linked colorimetric system to signal levels of toxin. Infertile soil and fertile wombs tested by the instrumentalized immune system of a designer mouse. A miniature parody of the theatre of subjects and objects,

²⁴ Nowhere in the book is there more than circumstantial evidence to support the contentions that are made in the name of a virtual devolution of the human race. All citations are to research which shows statistical connections of varying consistency and force. The theories of how hormone mimicking chemicals function to cause developmental change are weak at best. DES and its effects remains the most complete and compelling example, given the specific population and the very high dosages.

insides and outsides, individuals and environment, all played out on the test-tube-sized stage of an alternately-embodied mechanism of self-nonsel self distinction. Of mice and men, indeed.

Strategic Diagnostics Inc. delivers a disposable, self-contained laboratory in a box. Steve Friedman, the founder of EnSys (which recently merged with Strategic Diagnostics) contributed both to the development of pregnancy tests and the environmental toxin tests. According to him, the advantage of the RapidChek test is that it allows large areas to be quickly mapped and tested to discover the extent and level of exposure. Entered into a database and sent through a GIS system, this battery of tests makes visible the non-visible. Precisely here the *perception* of risks is mediated— this is the late modern arena of politics, where there can be no distribution of risks, nor any possible politics without the test. Politics no longer occurs only at the level of the juridical evaluation of the scientifically verified risk; it happens also during scientific testing itself.

And while such perception has typically been mediated by government and corporate labs, making the 'sub-politics' of perception a matter for government regulation, corporate management, and environmental groups, the RaPID Assay® is the environmental equivalent of the pregnancy test: a personalized and individualized, commercially available standard for mediating perception. Indeed one might easily confuse them, testing freshwater lakes with ClearBlue Easy™ and pregnant mothers with RapidChek™ Ulrich Beck's discussion of risk perception leaves the consumer at the mercy of government agencies or commercial labs to make the risk visible at the individual level. But both RapidChek® and Clearblue Easy™ are tests which make risk visible to any individual— they complicate matters by using the market as a delivery system for risk perception.

But what still remains mediated elsewhere, however, is precisely the criterion of the decision ('acceptable levels of PCBs' and 'early starts for babies'). Making any decision requires an understanding of the choices, an anticipation of the consequences and a relationship to knowledge, especially when the decider is figured simultaneously as economic man, ethico-political subject, and pregnant woman as in the case of pregnancy testing. Setting the premises for the diagnostic test is a procedure that happens outside of the use, manufacture, perhaps even the design and patenting of the test— in a space called science, a discourse without subjects.

Environmental discourse and green politics are no longer, if they ever were, simply a discourse of the left. The status of the earth and the role of industry, progress, wealth and health occupy positions across spectrums of national, international and world politics. It is now possible, as Monica Caspar and Vivien Christensen²⁵ have suggested, to be a pro-life environmentalist: to assert the importance of the “fragile fetus” and the responsibility of women to be good mothers not just to their own wombs, but to the earth as well. “Mother Earth, indeed,” they proclaim. This individualization of risks that are collective and social and world-wide is new. It is Risk Society par excellence: the distribution of wealth accompanied by the distribution of risks. But it is in the discourse of testing, especially in the realm of consumer-marketed testing, that these risks do not simply *befall* people, but come complete with an individualization of the *responsibility* for them as well.

For the authors of *Our Stolen Future*, the end of the world, the apocalypse, is indicated by the hormone-mimicking chemical. Our own bodies, imaged here as trustworthy answering machines receiving an insidious message, are taken advantage of by a chemical that our own reproductive system cannot distinguish. It is a first-world fear, an apocalypse of miscommunication that rivals the worst breakdowns of the nuclear family. But it is also a fear of a certain world-wide-ness, an everywhere-ness of toxins which is illustrated in chapter 6, “To The Ends of the Earth.” ‘Our imaginary PCB molecule’ is a peripatetic molecule that traverses the earth via food chains of all sorts [Figure 8]. It is the persistence of the PCB molecule that is at issue here, its indestructibility and ultimately its dispersion. The chapter begins with Polar Bears, whose mating habits are being observed via satellite by curious Norwegian scientists, and ends with Inuit fishermen off of Baffin Island whose “language has no word for contamination.” Both are symbols of the inescapability of toxins, but they are also inadvertently symbols of the inescapability of the world picture. Satellites watch from space to see which polar bears bear young and to see which fishermen hunt polar bears and seals with snowmobiles and powerboats. Paradox and breakdown in the classic environmentalist tropes of endangerment.

This apocalyptic fear is not a religious fear of omnipresence, nor a simple totalitarian fantasy of constant panoptic vigilance, but precisely and explicitly, a late-capitalist fear of the scope, scale and speed of information (toxins, in this case, which by mimicking hormones, “send the wrong message”). This confusing fear is present in every chapter and at every level of *Our Stolen*

²⁵ Caspar, Monica and Vivian Christensen, “Our Environment, Ourselves: Hormone Disruptors and the Fragile Fetus,” Paper delivered at the 1997 4S conference, Tucson, AZ.

Future, to the extent that the very notions of scope and scale confound the authors: “A large part of the body’s internal conversation... is carried on through the bloodstream, where hormones and other chemical messengers move about on the biological equivalent of the information superhighway...”(31) Everywhere, at all times, like pornography on the internet, these molecules are delivering their insidious messages to unsuspecting mammals. “There is no safe, uncontaminated place,” (109); it takes only “a single hit” and a very small amount to disrupt the reproductive cycle; these chemicals are inside our bodies as well as in the environment “here, there, and everywhere.”

Perhaps as a result of this confusion over scope and scale, endocrine disruption research relocates the apocalypse of environmental abuse inside the body. Not simply any body, which was always the strategy of an environmentalism whose apocalyptic note was cancer, but all potential bodies, as reproduction and development now meet a an ever more insidious mutation. And not just anyone's body, but a body conceived of as an environment: the authors deploy a discourse of sustainable fetal development, suggesting that if we can't clean up the environment, at least we can clean up the womb (further, Christensen and Caspar cite Greenpeace's reference to breast milk as a "renewable resource"). This body is a fertile body that warps and blurs reproduction and production, or to borrow from Arendt, labor and work²⁶. Property, for Arendt, is confused today with wealth, rather than its much more lengthy historical association with the private and interior space of the home. But now, such property has lost all meaning, the womb, the environment, the molecule, whose property and how imbricated with capital and wealth? Remember that the apocalypse of *Our Stolen Future* is first about property, about the environment as land, and the womb as resource: it is our *stolen* future. The connection between the valuation of property and production, and the valuation of life is not accidental. This end of the world is a very particular end, an end championed by the Sierra Club and Al Gore as our most precious form of property. That the future now risks being stolen means, despite any claims to metaphor, that the future is already possessed. If in the name of recovering this future we must exercise eminent domain over wombs, then so be it; because in the stolen future, not only property, but the very nature of humanity is at stake: no longer is the mutation of cells the apocalypse of moment, but, via reproduction, the mutation of humans. That death is not the end is the 'revelation' (apocalypse) of *Our Stolen Future*. Immortality itself is at stake.

²⁶ Arendt, Hannah, *The Human Condition*, Chicago, Chicago University Press, 1958.

The roll call of potential dangers, which is as broad and varied as the course of the PCB molecule, includes, among animals: "aberrant mating behavior...neglect of nests... derailment of the normal expression of sexual characteristics, masculinized females, feminized females, and the possibility of cancer." In humans: "plummeting sperm counts in males, undescended testicles, enlarged prostate glands, increasing rates of breast cancer, miscarriages and ectopic pregnancies (also attributed to DES), behavioral disorders, learning disabilities, retardation, hyperactivity, short penises, weak reflexes, poor motor skills," and of course, homosexuality.

That all of these potential dangers are culturally contested at some level or another doesn't bother the authors of *Our Stolen Future*, as they are happy attributing anything and everything to their dissimulating molecule. As usual, the test is never far behind: "Why did the Scholastic Aptitude Test scores of high school seniors seeking college admission begin to fall sharply from their high point in 1963 and continue downward for almost two decades? What about the problems in our schools? Why can't many children read?"²⁷ Test scores, always a site of upper middle-class 1st-world anxiety, are here represented not only as an irreproachable marker of intelligence, but also as such a measure of societal potential that even a small drop in average scores could leave us lacking the requisite number of geniuses needed to figure out why we have become so thoughtless. The authors nicely, naively demonstrate how the SAT test works also as a site of social reproduction: "With the current average IQ score of 100, a population of 100 million will have 2.3 million intellectually gifted people who score over 130. Though it might not sound like much, if the average were to drop just 5 points to 95, it would have "staggering" implications, according to Bernard Weiss, a behavioral toxicologist who has considered the societal impact of seemingly small losses. Instead of 2.3 million, only 990,000 would score over 130, so this society would have lost more than half of its high powered minds with the capacity to become the most gifted doctors, scientists, college professors, inventors, or writers."²⁸ And we might add, behavioral toxicologists and science journalists. Absent environmental remediation, remedial education threatens expansion. Against the clean 'scrape' that the US government promises the Bikini atoll on the fringes of education, experience and environment, there is nothing that will allow these displaced individuals to return 'home'.

²⁷ *Our Stolen Future*, op. cit. p. 235.

²⁸ *ibid.*

Conclusion

By this point it should be clear, that in the banal apocalypse of our stolen future, “human nature” equals reproductive sexuality (i.e. heteronormativity), intelligence (i.e. race, class, ethnicity), and social organization (i.e. class, nation, ethnicity, race, technology). For the detectives in *Our Stolen Future*, it will be necessary to take possession of these things, or risk permanent homelessness.

Or perhaps *Our Stolen Future* will simply be forgotten, sold for scrap, but in either case, what will remain at the center of all future politics will be the test. Whether the test tells us how to live, or that we aren't alive, or that immortality is dead or just that life is a series of tests, it's ethics are here to stay. I will not conclude by suggesting that the test is the root of all evil, which it clearly isn't, but neither do I want to suggest that it is, can, or should be a neutral scientific arbiter. The power of tests, and of the statistical, probabilistic, informatic language they teach us to use, is that we have already become scientific— that our everyday lives are crash-tested. The test teaches us to assert our responsibility for the world, even before we assume it.

A Home Test to Detect the Early Warning Signs of Colorectal Disease

Results in less than one minute

- Colorectal disease affects men and women equally—therefore it is recommended that all adults over 40 get tested annually.
- ColoCARE is designed to enable you to quickly detect hidden blood in the stool—an early warning sign of colorectal disease.
- Early detection of colorectal disease increases chances for recovery and has been shown to decrease deaths by 33%.

Read enclosed instructions thoroughly before use.

Kit Contents:

3 ColoCARE pads

1 Result Card

1 Instruction Sheet



STEP 1

After a bowel movement place ColoCARE pad into the toilet bowl.



STEP 2

Observe the ColoCARE pad. Note any color changes on result card.

Questions? Comments?

Call our HelpLine at 1-800-927-7776



For external use only. Store at room temperature (59°-86°).

Keep out of direct sunlight.

Keep out of reach of children.

Distributed by ChemTrak, Sunnyvale, CA 94086

© 1997 ChemTrak

 CHEMTRAK

FIGURE ONE: ChemTrak's ColoCare Test



REPARING FOR BLOOD SAMPLE

This step is very important: Read all directions carefully before you prick your finger. If you are not still unsure about how to prick your finger, call the Cholestrak Help Line.

Wash your hands thoroughly with soap and warm water before you obtain the blood sample. Dry your hands completely before using the test.

Rest down and relax for about 5 minutes. During this time rub your hands to warm them.

Select your "middle" or "ring finger." The finger could be warm and callus-free. (See the area over in the picture in Step Two for an example.)

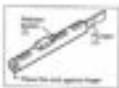
> INCREASE BLOOD FLOW; LET THE ARM OF YOUR SELECTED FINGER HANG DOWN AT YOUR SIDE FOR AT LEAST 30 SECONDS. If you are right-handed, draw blood from your left hand. (Reverse if left-handed.)

REPAIR THE FINGER STICK DEVICE

Push off the circular gray cap. It may be tight.

DO NOT use the finger stick device if the gray cap is damaged or missing.

If the plunger out (Marked #4) or if you hear a soft "click". The loose button (Marked #3) could have popped out.



DRAWING THE BLOOD SAMPLE

Lay selected hand, palm up, against a flat table surface.

Hold the finger stick device in your other hand.

Hold the finger stick device firmly against the outside tip of your finger. Press the release button (#3). You may feel a slight sting. Don't pull your finger away; you may not get enough blood. After the puncture, remove the finger stick device.

With the gauze pad, wipe away the first sign of blood. Blood may not appear until you squeeze your finger.

Before adding blood to the Blood Well, with your finger pointing down, let your arm hang at your side for 30 seconds to increase blood flow.



ADDING BLOOD TO THE WELL

YOU MUST ADD ENOUGH BLOOD WITHIN 5 MINUTES OF PRICKING YOUR FINGER TO COVER THE BLACK FILL CIRCLE.



Point your finger down directly over the Blood Well as shown above. Squeeze your finger from its base to the puncture several times. Squeeze and release your fingertip a few times to form a hanging drop of blood. Let the drop of blood touch the bottom of the test device Blood Well. Continue adding blood until the black fill circle disappears as shown above. For best results, add blood as quickly as possible.

IF THE BLACK FILL CIRCLE IS STILL VISIBLE, CONTINUE ADDING BLOOD. Letting your arm hang down again may help if blood flow is slow. Do not worry about adding too much blood.

If you are not getting enough blood to fill the Blood Well, choose another finger. Use the finger stick device and repeat STEP 1 and 2. For best results, blood should be added as quickly as possible to the Blood Well. You have 5 minutes to fill the well.

ONCE THE BLACK FILL CIRCLE IS COVERED, WAIT AT LEAST 2 BUT NO MORE THAN 4 MINUTES AND START STEP FOUR. Apply the adhesive bandage to your finger while waiting.



PULL TAB—READ RESULT

After waiting, hold the test device firmly in your hand. Pull the clear plastic tab on the right side of the test device until you can see the entire arrow. **PULL HARD!** Don't worry about breaking the tab or spilling the blood!

Tap the test device 2 or 3 times on the surface of the table. The "OK" indicator turns purple in about 5 minutes. The "END" indicator turns green in about 12 minutes. **READ THE TEST AFTER BOTH INDICATORS CHANGE COLOR.** If one or both do not change color, call the Cholestrak Help Line.

Read results under bright light. Find the very tip of the purple color bar in the Measurement Scale, even if fuzzy or faint. You can slide the edge of the result chart along the scale to help find the tip of the color bar. This number is your "test device reading" - not your cholesterol level.

Using the Cholesterol Result Chart, match the number of the column labeled "test device reading" with the number to its right under the column labeled "Cholesterol mg/dL." This is your cholesterol level. If your number is not on the card, call the Cholestrak Help Line.

IMPORTANT: Use the Cholesterol Result Chart that comes with the kit to read your test result. A chart from another kit will give an incorrect result.



Fig. 2

FIGURE TWO: ChemTrak's Cholestrak Cholesterol Test

CLEARBLUE Easy™

ONE-STEP PREGNANCY TEST

Easiest

No messy test tubes or urine collection. Simply place this absorbent tip in your urine stream and then replace the cap.

Fast

In just 3 minutes, you'll have your answer.

99% accurate

Proven 99% accurate in laboratory testing.

It's the easiest

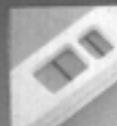
CLEARBLUE Easy is the only one-step, one-piece pregnancy test. You simply can't take an easier pregnancy test. All you have to do is place the absorbent tip in your urine stream, replace the cap, and in 3 minutes your result appears.

CLEARBLUE Easy is not only the easiest, there's no pregnancy test that's faster. CLEARBLUE Easy gives you an answer in just 3 minutes. Furthermore, CLEARBLUE Easy has been proven 99% accurate in laboratory testing.

In addition, with CLEARBLUE Easy, you can test as early as the first day of a missed period—and the earlier you know that you're pregnant, the sooner you and your doctor can begin to plan for a healthy pregnancy and baby.

Easy-to-read results

Only CLEARBLUE Easy is this easy to read:



PREGNANT



NOT PREGNANT

If any blue line appears in the large window, you're pregnant; if there's no line, you're not. In the small window, you'll see a blue line in 3 minutes to tell you that you've completed the test.

FIGURE THREE: ClearBlue Easy Pregnancy Test



Congratulations!

Your results can be saved in this memorable keepsake card for baby's book. To save your result:

1. Detach special keepsake card from carton, carefully pull card off along perforated edge.

2. Pull TAB at the end of result strip to remove inner strip. The absorbent tip should remain in the test device. However, if the absorbent tip does not remain in the device, the test result is not affected. Cut the result strip along the dotted lines (Diagram A). The result can now be placed in the keepsake card.

3. Insert the result through the slits in the keepsake card so that results line up in front of the heart and oval graphics (Diagram B).

4. You're now ready to share and save the good news!

detach here



DIAGRAM A

Remove strip from plastic case, cut off excess.

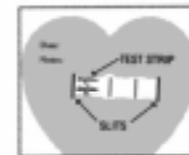


DIAGRAM B

Insert strip through slits on card.

FIGURE FOUR: Confirm™ Pregnancy Test Keepsake Result

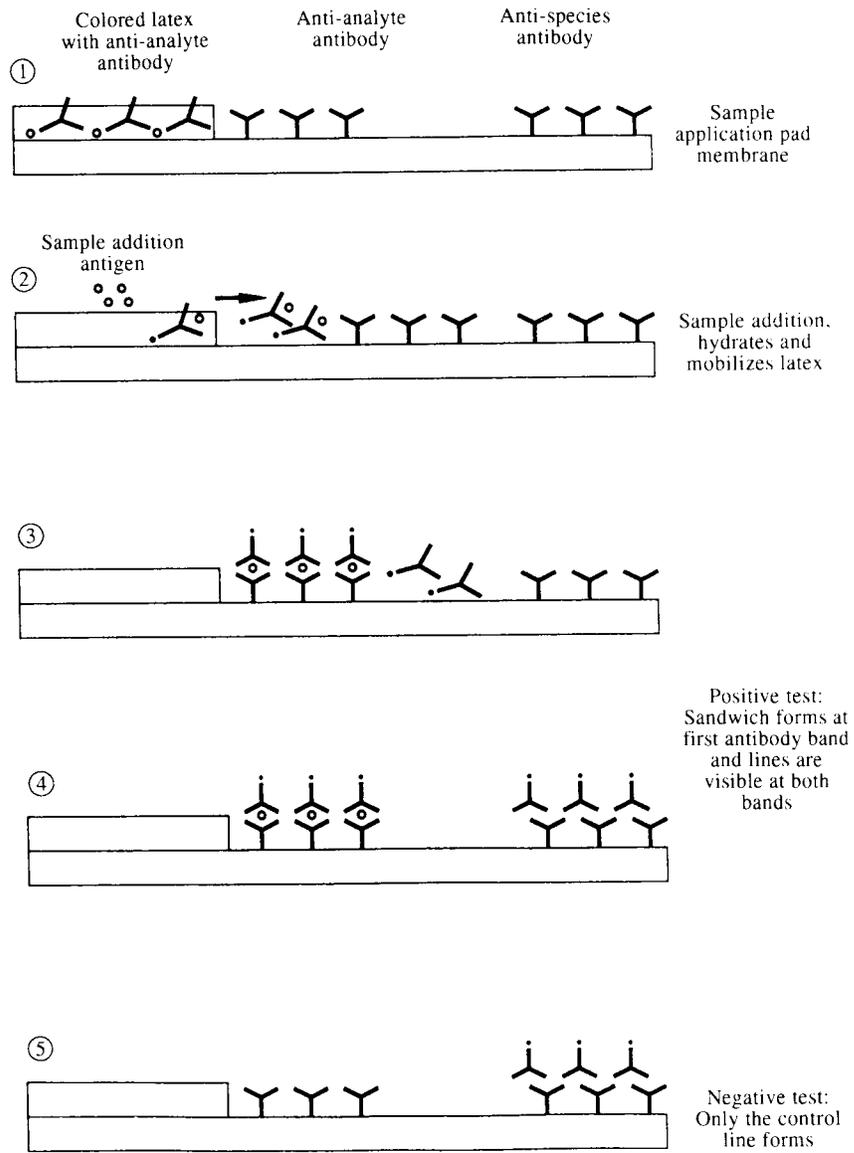


Figure 29.2 Mechanism of Unipath's rapid assay.

FIGURE FIVE: hCG antibody-antigen indication on a stick assay

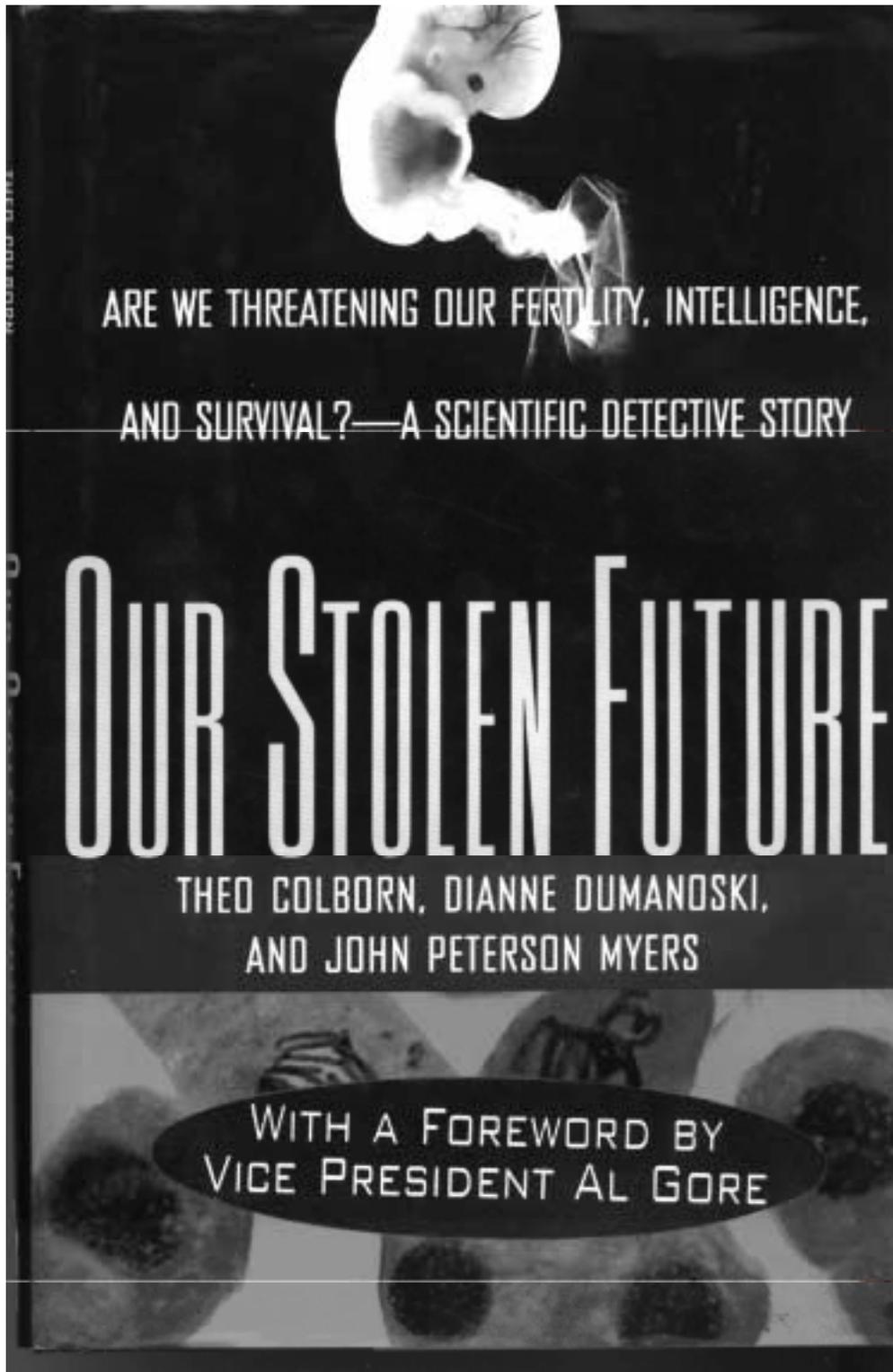


FIGURE SIX: The Cover of *Our Stolen Future*



FIGURE SEVEN: Strategic Diagnostics Inc.
<http://www.sdix.com/>

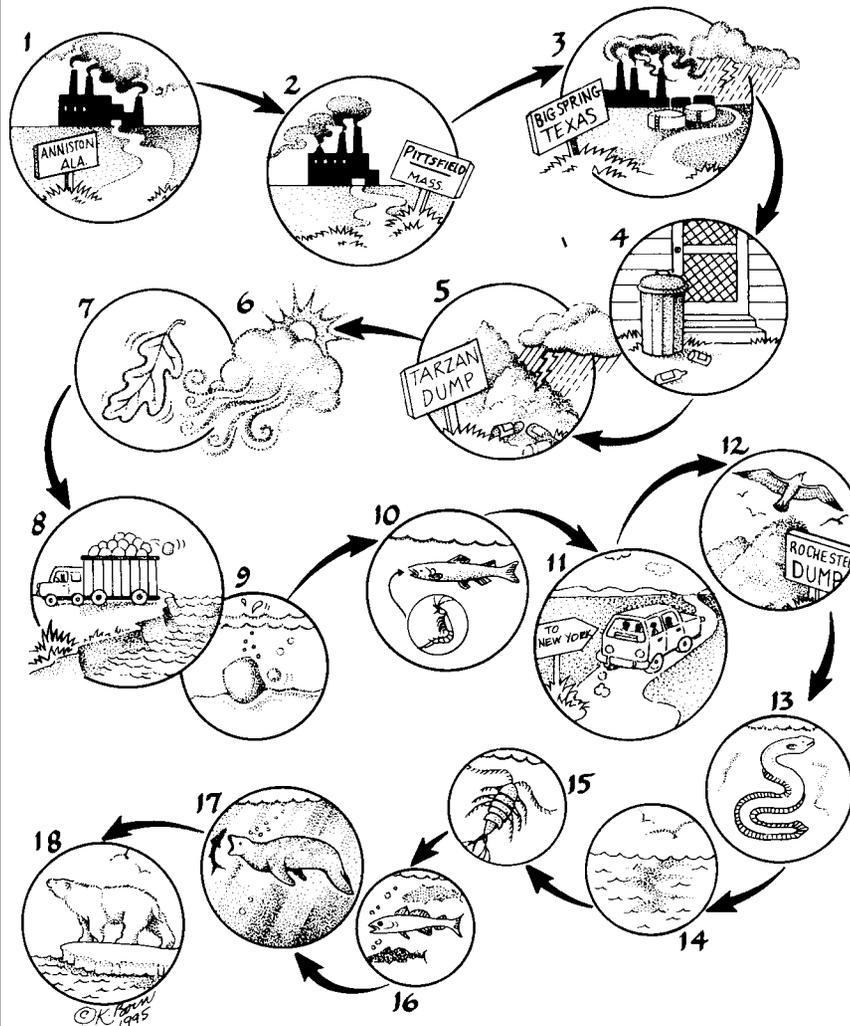
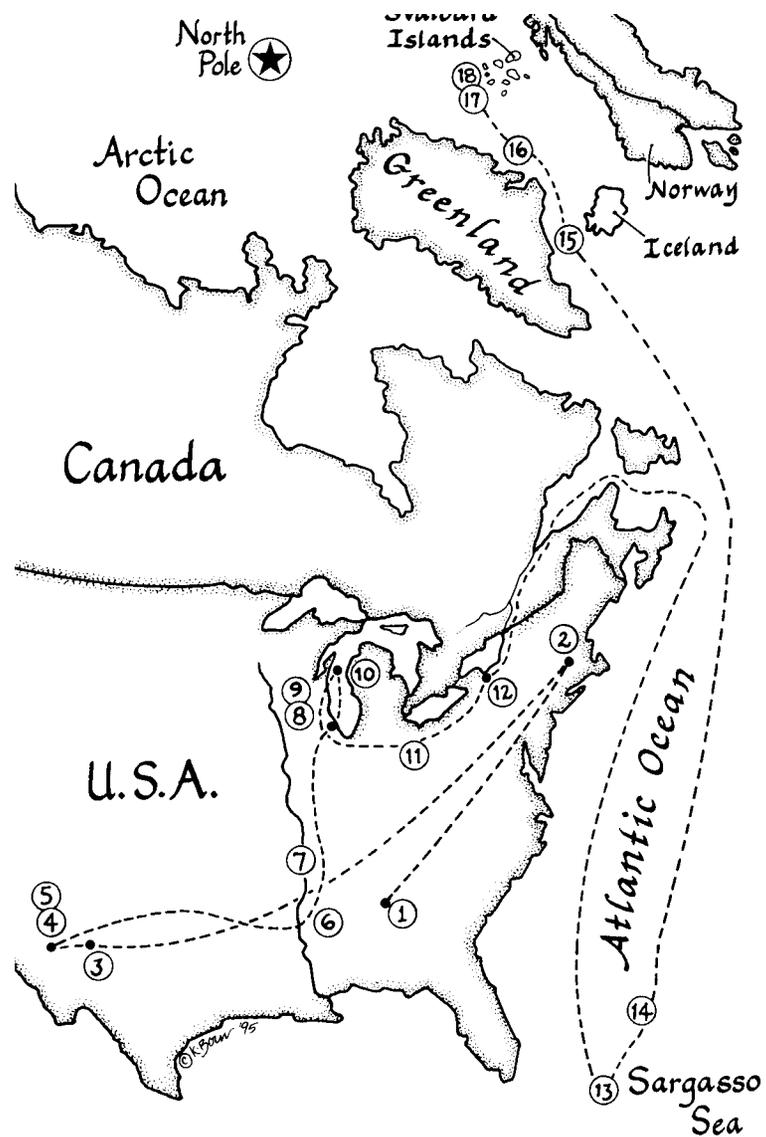


FIGURE EIGHT: The travels of a PCB molecule according to *Our Stolen Future*, p. 104-5