## ACCLAIRISM a new elite based on biometric trust

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## ACCLAIRISM a new elite based on biometric trust

Luther Thie & Eyal Fried

#### ABSTRACT

Biometric technologies are becoming socially acceptable in the wake of recent terrorist events. Bio-data is developing into a legitimate source for identity detection and assessment. Acclairism is an attempt to bring to light some of the conflicts and questions these technologies give rise to: What defines us as unique individuals? What defines us as trusted members of society? How much personal information will we willingly give away and under which circumstances? Through Acclairism we explore a situation wherein people freely accept a highly invasive, highly authoritative manipulation in return for tangible rewards and an upgraded social status. We perform this investigation through Acclair, a company providing braintesting services as part of an exclusive security clearance for air-travelers.

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# Introduction

#### INTRODUCTION

In this project we turn our attention to the emergence of authoritarian mechanisms within democratic societies in light of recent terrorist events. We view certain innovative appearances of information technologies as catalysts in the emergence of such mechanisms and aim at exploring their subsequent impacts both on the individual and the community. Through the utilization of contemporary technologies, we introduce fictional yet probable situations wherein powerful variables of authority and social conformity are confronted by substantial rewards. Through the incorporation of a seductive, extremely "user-friendly" approach, we entice users to experience the situations physically and mentally. That experience entices the user to initially embrace an authoritarian process for its pleasant and seductive process, but later exposes a sinister underside as more of the terms and conditions are revealed.

#### OUR PRINCIPAL QUESTION

How much scrutiny will people endure for the sake of flying?

To examine this question we have established a serviceprovider (Acclair) that uses Brain Fingerprinting (BFP) security clearance protocols, coupled with Neuromarketing techniques, to comfortably and efficiently clear members through security in airports while offering them valuable rewards. "Acclairism" arises from the hypothetical likelihood that such a service will generate a new trusted class, the "Acclaired class"; such a class demands higher levels of scrutiny to feel safe and cared for, feels comfortable with the tradeoff between privacy and security and is rewarded financially and socially.

Public perception is a particularly important aspect in the adoption of new technologies with controversial implications. In this respect, Interaction Design holds a crucial role by making products more useful, pleasurable, or intuitive to use, especially with regard to systems that may seem invasive to people's lives—in our case, biometric identification, aggregated data, and marketing profiling. Interaction Design may also be an effective critical tool by pointing to moral and ethical questions that are often frowned upon by the different actors in the market. The aim is to encourage the viewers to ask themselves why the values embodied in the proposal seem 'fictional' or 'unreal', and to question the social and cultural mechanisms that define what is real or fictional. The idea is not to be negative, but to stimulate discussion and debate among designers, industry and the public about electronic technology and everyday life. This is done by developing alternative and often gently provocative artifacts which set out to engage people through humour, insight, surprise and wonder.

- Dunne and Raby [1]

The critical design strategy advocated by Dunne and Raby highlights the paradox inherent in the use of technological applications to facilitate complicated human situations such as the tradeoffs between security and privacy. This project seeks to question the viability and ethical legitimacy of invasive biometric technologies. It outlines a logical historical progression that could lead to the widespread adoption of a debatable service, and gives rise to these questions:

To what degree will people be willing to accept authoritarian power voluntarily?

Will people accept more scrutiny in return for rewards? If so, which rewards?

What sets of judgments can be deducted from the answers to these two questions?

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# Context

Going to heaven or to hell, you always have to change planes in Atlanta.

- anonymous [13]

Based on information from air carriers on security costs under current law...CBO estimates that a new work force of federal passenger and baggage screeners would cost 5.3 billion over the three-year authorization period of 2002 through 2004...the costs associated with developing and running a screening program include hiring screeners, deploying armed law enforcement officers at screening checkpoints, training and background checks for screeners, and acquiring and maintaining equipment for screening carry-on and checked baggage and for screening passengers.

- S 1447 Aviation Security Act, as passed by the US Senate on October 11, 2001  $^2$ 

#### AUTHORITARIANISM

Airports are, first and foremost, ports. They exist as dynamic interfaces of gigantic proportions between people and places, physical borders between governing entities. 1.34 billion air-travelers have populated airports worldwide in 2003. The most populated airport during that time was Hartsfield-Jackson Atlanta International with 79 million air-travelers passing through. <sup>1</sup> As such, airports can, in fact should, be defined as hubs of authoritarianism. They are platforms for maximization of order and efficiency--Testing grounds for methods of organizing and re-organizing the local society in rational, engineered fashion.<sup>3</sup>

#### JUSTIFICATION OF SOCIAL CONTROL

If airports were not organized and human traffic closely directed, they would lose ability to exist and provide service essential to human social evolution. This justification for authoritarian control in airports is innate in the very essence of the airport experience. It can be quantified quite vividly when observing, for example, the historic correlation between the intensity of control measurements (in their appearance as security devices) and the approximated number of air-travelers.

Despite increasing invasiveness of security-related technologies, the number of air-travelers has grown

exponentially throughout the history of commercial flight. In the last quarter of the 20th century it has grown approximately by 6% every year.  $^{13}$ 

People are motivated to fly and that motivation is far more powerful than the probable endangerment of their personal freedom. It would presumably appear that means of authoritarian control are socially acceptable and to some extent desired. To what degree then, should these means be applied? What is the threshold beyond which the invasiveness of airport supervision exceeds the will to fly?

#### EVOLUTION OF AIRPORT SECURITY

One can find an anticipated yet interesting reversedcorrelation between the decline in the romantic attributions made to the experience of air-travel (airport stay included) and the increase in air-travel security. A contemporary security procedure takes this phenomenon to a whimsical extreme: beginning in the late 50<sup>s</sup> and throughout the 60<sup>s</sup> (essentially the first two decades of popular commercial flight) air-travelers would often dress up for their travel as airports and airplanes have been perceived as spaces for emergence and novelty.<sup>4</sup> It is a sign of present times that, in contingence with location, destination and sociological variables, chances are that the air-traveler would be asked to strip down.



Source: Getty Images

Even though the first plane hijacking was recorded in May 1930 when Peruvian revolutionaries seized a Pan American mail plane in order to distribute political leaflets over Lima, and despite the fact that the first casualties of air-travel violence were surrendered in 1955 (44 dead in a blast over a Denver-bound plane, bomb was hidden in the mother of the bomber's luggage), it was not until 1969 that physical security measures were installed in airports.<sup>5</sup> A magnetic technology used by the lumber industry to detect metal pieces inside logs and prevent damage to the saws was adopted and translated to the metal detectors.<sup>4</sup> These security measures were in large part a reaction to the tremendous rise in airplane hijackings in the 1960's; between 1968-1972, the US Department of Transportation recorded 364 hijackings worldwide.<sup>5</sup> With the increase in number of events, the degree of violent outcomes has inflated as well. Significant changes in legislation have followed: in December 1972 the FAA issued an emergency rule making inspection of carry-on luggage and passenger screening by airlines mandatory. In August 1974 the antihijacking bill was signed, mandating universal standard for screening and scanning.<sup>5</sup> In 1988, a bomb concealed in a radio-cassette player loaded into the luggage compartment in Frankfurt, shattered Pan-American flight 103 over Lockerbie,

Scotland. 259 passengers as well as 11 bystanders on the ground were killed. Security measures following the event included x-raying or searching all checked baggage and matching it with passengers. During the 1990's, research focused on developing new equipment for bomb and weapon detection. Two air accidents in 1996 diverted the attention to the danger of explosions on board airplanes and propelled the banning of "hazardous materials" from passenger flights. It also deepened interest in new methods for material detection and investment in training of capable personnel.<sup>5</sup>

In September 2001, four airplanes were hijacked over American soil. Three of them were crashed into buildings and one into the ground, causing the death of thousands. Less than two months after, an Aviation and Transportation Security Act was signed, mandating U.S. federal government direct responsibility over airport security screening, managed previously by airlines and subcontractors.



Timeline of Authoritarian Acceptance



Security checkpoint at Portland International Airport







Portland overhead monitor security video sequence for passengers in line, December 2004

The Transportation Security Agency (TSA) was created to oversee security. An ad hoc Research, Engineering and Development Advisory Committee (REDAC) was formed to assess security research opportunities<sup>6</sup>.

Having had to face the inadequacy of technologies and methods focusing on the stoppage of the weapon, the bomber, the material – attention was once again diverted toward the delinquent: know the person, anticipate him, stop him, weapon is secondary. Biometric technologies, already being explored in the context of airport security (fingerprinting system was being tested at Chicago O'Hara for cargo truck drivers delivering goods to the airport), were upgraded in status and considered a promising prospect for a comprehensive security solution. Some of the basic systems explored included IRIS and retinal scans, face and hand recognition systems and fingerprint comparisons. Suggestions raised to issue passengers a smart card (following an extensive background check) that would include residential and flying history, were advocated as security-enhancing and time-saving. "External" biometric methods include such devices as the Barringer Ionscan 400 – a device that blows jets of air at passengers causing microscopic particles to float into overhead sensors sniffing traces of explosive materials, as well as drug residue.



Bentham's Panopticon Source: Graduate School of Architecture, Columbia University, www.arch.columbia.edu

#### THE BIOMETRIC PANOPTICON

#### TIME - SPACE - INFORMATION - SURVEILLANCE

Bentham's panopticon is a penitentiary building of a semicircular pattern with an inspection terrace at the center and prisoner cells around the perimeter. Using a complex system of lighting and wooden blinds, the guards are practically invisible, while the inmates are completely and constantly open to visual inspection by the officials.<sup>8</sup> The panopticon, a physical monument of social control, is fundamental to Foucault's perception of modernity and the role of the governing power in modern societies. Foucault argues that inside the panopticon, discipline as a form of control crosses a threshold in which "formation of knowledge and the increase of power regularly reinforce each other in a circular process.<sup>9</sup> This "formation of knowledge," this power achieved through physical inspection, or surveillance, can be found in other modern institutions such as hospitals, schools and factories.

Giddens adds an interesting layer to the discussion observing that in modern times this kind of disciplinary power is fashioned by "new modes of regularizing activities in time-space". (author's emphasis)<sup>10</sup>

INVISIBILITY - CLASSIFICATION - MANIPULATION - INTENT "Panoptic" principles can be detected in many forms of electronic surveillance. Beyond the classic use of visual and auditory recording of reality, other methods such as radio telemetry, electronic tagging (external or internal to the body) are used in different social contexts (disciplinary, scientific, consumerist). The sociologist Gary T. Marx, in his research on American undercover police work makes the argument that new technologies form new schemes of power. He characterizes these new technologies as such: "they are invisible (or close to that), capital rather than labor oriented, introduce suspicion of whole classes of persons rather than specific individuals, are both more intensive and inclusive. Control thus is achieved by manipulation rather than coercion, through computer chips rather than prison bars".<sup>11</sup>

For this type of digestible control, biometric technology, capable of tracking not only behavior but also intent, is a powerful tool.

#### CONTROL - CONSUMPTION - SEDUCTION - CONFORMISM

Shearing and Stenning introduce Consumerism as a panoptic weapon for achieving social control. With biometric technology at their disposal, the body in power is capable of maintaining desired principles of conduct through "consumeristic" manipulation. Disneyworld, therefore, represents a microcosm of consensual control in which "people are seduced into conformity by the pleasures offered by the drug soma rather than coerced into compliance by threat of Big Brother, just as people are today seduced to conform by the pleasures of consuming the goods that corporate power has to offer".<sup>12</sup>



"What's Your Range?" computer-aided gameshow, including live hostess, at Singapore's Changi Airport

#### **Context Part 2**

#### AIRPORT + CITY =

"The airport is a new type of city, perhaps the most coherent of a fresh generation of post-industrial cities. In this the terminal building is its marketplace, cathedral and municipal town hall all rolled into one."  $^{17,18}$ 

Some contemporary thinkers contend that the modern place we describe as an "airport" is in fact a place of a new breed, a hybrid of the urban construct and the transportation hub, one that emerges from the era of social and economic global networks. That hybrid is referred to by John Kassarda as the "Aerotropolis", <sup>19</sup> by Rem Koolhaas as AirportCity.<sup>20</sup>If international terminals were typified mostly by a functional, flow-oriented modernist type of architecture, by the mideighties, new, more naturalistic design metaphors were found for air-travel spaces.



Stansted airport, Great Britain



Charles De Gaulle airport T2, France



Oslo airport, Norway



Kuala Lumpur airport, Malaysia

The airport has gradually begun to lose its geographical characterization, losing the geographical context, becoming less organic, but at the same time not staying as a neutral "non-place" but emerging as "among the singular, characteristic elements of the generic city, its strongest vehicle of differentiation", fusing the "hyper-global and hyper-local"<sup>20</sup>. The Gardemoen Airport in Oslo, for example, was built using Norwegian materials such as wood, concrete and stone. Kurokawa has made references to Islamic architecture in designing the airport in Kuala Lumpur, and the King Khaled International Airport in Riyadh features a mosque with a capacity for 5,000 worshippers.

While airports in the US were used mostly as high-pace hubs, airports in Europe encompassed more of the qualities of a "place", and as a consequence were the first to grow in the direction of the new urbanity. Due considerably to the European model of ownership in which airport lands and services are privately owned (either fully or partially), new airports were designed to maximize revenues from non-flight activities. Koolhaas, for example, argued that we now operate within the boundaries of the global YES (the emblematic Yen, Euro, and Dollar) and approached the design of the new Schiphol airport in Amsterdam accordingly.<sup>20</sup> No wonder then, that he responded to the design challenge by proposing an intense, hectic urban environment. The Koolhaasian airport



Dutch island airport conceptualizaion by Rem Koolhaas, Content, Taschen, 2004.

is filled with universal icons of the consumed and the nomad, yet depicts the local, even if in a museum-like fashion. The model of the new airport, the AirportCity, introduces shopping centers, nightclubs, restaurants, casinos, hotels, apartments, and a business district modeling Silicon Valley and Hollywood  $^{15}$ .

A different model of the modern aviation hub is the "Aerometropolicity" - the growth of areas around airports, and the construction of airports as independent territories, islands. (Osaka, Seoul, Holland?--see above Koolhaas concept). This model corresponds to the new needs of a socio-economic global network: on one hand, the need for flexible transportation and real-time exchange of both people and goods, on the other, space constraints and environmental regulations limiting the fast-growing activity. The design team of the new T5 in Heathrow, London have observed:

"As activity levels increase, the timing of activities that occupy space becomes increasingly important in all areas of the terminal. Terminal operators are coming to realize that one person standing in a corridor for one hour is occupying space that might have been used by approximately 60 passengers walking through the corridor. In a similar fashion, 60 passengers arriving at the terminal by train rather than individually by taxi can save 2,400 to 3,000 feet-minutes of curb frontage."<sup>14</sup>



Source: Koolhaas, Mutations

Airport-specific business models are developed. The new hybrids are now oriented toward customer priorities, profitability, time-per-revenue and area-per-revenue maximization, accessibility and technological innovation. Airport operators coordinate and integrate business activities with their "parent" cities to enhance business development. Schiphol offers the highest office rent in the country together with the city of Amsterdam. In Niederrad in Frankfurt, Orestad in Copenhagen and Oerlikon in Zurich, "corridors" of economic activity are formed between the city and its corresponding airport.<sup>18</sup>

In the US, a class of companies is emerging, whose sole financial justification is the airport. Such companies supply land-air-land cargo transportation services, telecommunication infrastructure and trained personnel. In Asia, major "business fusion" ventures are in progress. Near Seoul, the Winged city located in the airport island, offers services and facilities for airport-related establishments. Such services include 60,000 houses, parks and resort facilities, trade, exhibition center etc. Accessibility is the main feature on the 40 kilometers corridor between the new airport in Kuala Lumpur and the Petronas Towers in the city. This information-rich corridor can be accessed by air and land and includes a government administration center (Putrajaya) and the IT center of Cyberjaya. Another ambitious corridor is designed in Hong Kong, where the development of 80,000 square meters of retail area, 5000 apartments, 355,000 square meters of office real estate and 3600 hotel rooms is in progress, in addition to the new Disney World.<sup>18</sup>



Hong Kong airport 2040

The evolution of such mutations as the AirportCities, Aerometropoli and the airport corridors is consistent with that of a new social structure, calling for an examination of globality as an existential state, not only social and economical but also psycho-physiological. In other words: Who are the people populating the AirportCities?

#### THE KINETIC ELITE

Koolhaas describes the inhabitants of the airport as "kinetic elite": a fast-growing group of people who spend a significant portion of their time in airports, as if in-between places, time zones, homes. This "in-betweeness", so it seems, is no longer; it is a defined state of being, a factor in a formulation of identity. The identity of members of the kinetic elite group might abide not only in the traditional socio-ethnic format, but formulize around a set of new, "global" constituents. Consumption power is such a constituent. Conforming to global rules, rather than local, is another.

AirportCity, is designed to accommodate this new state of being.

In fact, one can argue it is designed to create it.

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Travelers & Consumers	Employment	Business Opportunities	Industry Partners	Law & Policy	Security & Law Enforcement	About TSA	Briefing Room	
					Site Searc	h keyword	•	

## Welcome to the Transportation Security Administration

#### **Travel Tips for the Holiday Season**

Travelers are expected to head to the nation's 450 commercial airports in record numbers this holiday season. TSA has partnered with the local airports and airlines in anticipation of the busy travel period. Together, we're implementing holiday operations plans to deal with the high traffic levels and ensure you have a safe and pleasant travel experience. Please read our travel tips prior to traveling, and have a great holiday season.



TSA screeners are committed to keeping wait times low.

Travel Tips	News & Events	Spotlight		
2004 Holiday Season Travel Tips	TSA and National Business Aviation	What is FOIA?		

Source: http://www.tsa.gov/public/index.jsp

Avoid having on your person items that contain metal when traveling, including:

- Jewelry (pins, necklaces, bracelets, rings, watches, earrings, body piercings, cufflinks)
- Shoes with steel tips, heels, shanks, buckles or nails
- Clothing with metal buttons, snaps or studs
- Metal hair barrettes or other hair decoration
- Belt buckles
- Under-wire brassieres
- Keys, loose change, lighters
- Mobile phones, pagers, and PDAs
- Surgical steel implants will require a physician's note

- Logan Airport's "Inside the Airport" online manual<sup>13</sup>

#### ARE WE IN THE PRESENCE OF A PARADOX?

Can social control by coercion (visible, absolute power) coexist with control by manipulation (invisible, relative power)? At present, it seems that in airports they do, as depicted by the separate phases of the flight pre-departure process. In the first phase, control is obvious and imposing: it is very clear where the prospective passenger should go, where his luggage should be located, what personal papers should be carried for inspection. It is obvious that different forms of surveillance are being applied, some are hidden, some disclosed. The individuals in uniform are in charge of the situation, their demands should be satisfied completely. The requirements are clear, the scheme is clear, and so are the sanctions in case of failing to comply. This clarity, along with shared, unspoken memory of aversive events in similar scenarios, generates compliance, and more importantly, acceptance.

The second phase is just as clear. The prospective passenger, having been cleared by the power, is now subjected to a different set of rules, those of consumption, manipulation and apparent free choice. He is now in a new place, a new form of urbanity, with nothing between him and his destination.

But in AirportCity, where the "kinetic elite" is no longer a guest but a dweller, this discrepancy might grow to be obsolete. A new experience might be desirable, one that incorporates the need for secured control with that of delightfulness and communal participation. What we have been thinking for innovative ways of detecting unknown threats

- Use non-invasive neuro-electric sensors to detect passengers who potentially might pose a threat
- Passenger threat assessment using machine learning, data mining, and expert systems, applied to multiple databases containing information about passengers and suspected terrorists (possibly as an extension of CAPPS)

5 ∰AT

NASA Powerpoint slide obtained through the Freedom of Information Act, source: EPIC

#### **Context Part 3**

#### NEW REGULATIONS, BACKGROUND CHECKS, DATA AGGREGATION

Purportedly for criminal investigation and security purposes, various United States government agencies perform background checks on people traveling within or through the United States. US VISIT (United States Visitor and Immigrant Status Indicator Technology) "compares names on terrorist and criminal watch lists and creates a comprehensive database on visitors and resident aliens that will be kept for 100 years."<sup>21</sup> Secure Flight is the new background check system currently in its testing phase after 72 airlines were required to turn over their June 2004 passenger records which include "credit card numbers. phone numbers and health information". The Transportation Security Administration will be testing the system through March 2005.<sup>22</sup> Secure Flight will replace CAPPS (Computer Assisted Passenger Prescreening System), the system privately run by airlines. CAPPS checks passengers against terrorist watch lists. Joint Terrorism Task Force lists and federal and state search warrants for those wanted for violent crimes. Secure Flight will be run centrally, based on its own database network and passenger data supplied by airlines. CAPPS II, the precursor to Secure Flight would have searched various other databases including Choicepoint, Acxiom and LexisNexis, but was cancelled mainly due to the scandal

around the secret release of passenger info by several US airlines to the US government."  $^{\rm 23}$ 

In the recent privacy scandal, NASA hypothesized the possibility of combining data aggregation with mind-scanning as a counter-terrorism method. NASA requested records from Northwest Air and used the data to develop hypothetical scenarios that would include the "use of non-invasive neuro-electric sensors to detect passengers who potentially might pose a threat" and "passenger threat assessment using machine learning, data mining, and expert systems, applied to multiple databases containing information about passengers and suspected terrorists (possibly as an extension of CAPPS)."<sup>24</sup> NASA has since abandoned its program and "returned" the records to Northwest. They claim that they made no copies of the records and have shut down the project.

In September 2002, JetBlue Airlines turned over 1.1 million passenger records to a Pentagon contractor, Torch Concepts, in direct contradiction with JetBlue's privacy policy.<sup>25</sup> The budget airline is now involved in a class action lawsuit brought by the affected passengers. The passenger itinerary

NASA does not have the capability to read minds, nor are we suggesting that would be done," said Robert Pearce, Director, NASA's Strategy and Analysis Division in the Office of Aerospace Technology in Washington. "Our scientists were asked to think outside the box with regards to ideas that could aid the nation in the war on terrorism and that's what they are doing. We have not approved any research in this area and because of the sensitivity of such research, we will seek independent review before we do.

- NASA Press Release/

information was augmented with "sensitive information such as Social Security numbers and family size, which it purchased from Acxiom, a mammoth data-aggregation company. Torch then tried to determine if massive amounts of data would allow its technology to distinguish between typical passengers and terrorist profiles. JetBlue, which gave the data to Torch after being asked to help by the Transportation Security Administration, said the airline knew Acxiom would provide detailed information about JetBlue's customers to Torch, since Acxiom works on JetBlue's database."<sup>26</sup>

Data aggregation—the collection of data from various sources—is used to construct a profile of each passenger to evaluate their trustworthiness. The dilemma seems to be the lack of any system of checks and balances to assure the passenger's privacy rights. The central storage of private information by the government could become problematic for passengers who are mistakenly accused of crimes and are therefore denied flying rights due to their criminality or untrustworthiness. It could be quite difficult to erase the mistake and could affect the passenger's relations with all airlines and all government agencies, including the Internal Revenue Service.



Iris scan diagram, including template (top left)

#### **Context Part 4 - Technology**

#### BIOMETRICS

Biometrics is the mechanical or digital measure of the human being-using the unique patterns of the human as unique identifiers. The photograph is a low-resolution example of a biometric and has been in use as such for many years, namely with the passport. Fingerprints are a more reliable and unique biometric identifier that is used extensively, especially for forensics purposes, but increasingly for other purposes, "...even though 1 to 3 percent of the population has a hard time reliably using a fingerprint system" and is susceptible to counterfeit.<sup>28</sup> Currently, with the advancement of technological security applications, biometrics is a rapidly expanding (and profitable) enterprise, iris recognition being the most accurate and popular for high risk/high reliability situations. Biometric authentication and identification has an authoritarian aspect in that its procedures are without compromise. There is no swift negotiation with an automated system. If an error is registered, a good deal of bureaucratic hassle would necessarily ensue in order to have the record remanded. Due to the fact that each person has physical traits that are unique, technologies that scan and register these traits are being developed for security and identification purposes. Unfortunately, there is the possibility for system failure or a form of counterfeit, including masquerade, identity theft and replication. A possible solution to this problem could be to fall back on older forms of identification, such as a passport photo, if need be. Multimodal biometrics systems (submitting more than one physical trait for authentication) are used to combat system failures—by using more than one biometric, if one fails, the other may be able to compensate. A relevant issue raised in the British National Identification card debate is the fact that someone could fake an older non-biometric-based form of identification such as a birth certificate and subsequently obtain a valid biometric-based form of counterfeit identification.

Nevertheless, biometrics identification and authentication systems are becoming more accurate and are likely to become ubiquitous in the coming years. "In 2000, expenditures for biometric authentication systems reached \$66 million worldwide, a combination of finger scanning, hand geometry, iris and retina scanning, face recognition, and voice and signature verification technologies, according to Frost & Sullivan, a leading market research firm, in its "Total World Biometrics Market" report. The forecast through 2006 is for an overall compound annual growth rate (CAGR) of 54 percent, attaining market levels near \$900 million. In The politics of "passing" have never been more literal. In a world of bare identification, people are no longer "interpreted" by moral standards but are authenticated at thresholds. Bodies are electronically scanned and name is matched simultaneously to body and database – a body of electronic traces – image archives and credit card purchases, social security information, and travel itineraries, each hooked into another body [of information]. Thus on one end we are dealing with flesh bodies and at the other we are concerned with a pattern match.

- Gillian Fuller<sup>30</sup>

its September 2001 study, "Biometric Market Report 2000–2005," the International Biometric Group (IBG) projects even further growth: as much as \$1.9 billion by 2005."<sup>29</sup>

The use of a unique physical trait (biometrics) to cross borders and other secure thresholds (network login passwords, etc.) is becoming commonplace in sensitive areas such as airports. Required use of a biometric poses some ethical and political challenges, although the current security climate seems to be overuling most if not all challenges to the adoption of these systems, especially in international border contexts.

This could be a benefit to minorities and citizens of the world not fitting the "trusted" visible profile that depends on national and culture-specific types. An Arab-appearing person traveling through the United States today would probably welcome the possibility of membership in a service that looks beyond skin color and accesses identification data that proves the trustworthiness and non-threatening status of the individual. So, although biometrics-based authentication could be viewed as authoritarian, it could also be deemed the ultimate form of fairness. Status is based on data recorded in a system that judges everyone according to the same criteria by a (presumably) non-prejudiced machine. In such a system, however, a form of stigmatization could develop prejudicing against those who are not members. A form of elitism could develop where those who are members only trust other members—a trusted class developing out of the clearance technology. Belonging to groups based on particular human characteristics is not a new phenomenon by any means. What is new is the machine-processed interpretation of the body that provides the class standard.

Privium is a Dutch airport service provider operating a biometrics-based airport clearance system at Schiphol Airport in Holland. It uses an iris recognition and smartcard combination verification system to process its members through its advanced security checkpoint facilities. Its system is the current model program that could be the type of system adopted as a reliable and efficient way to clear passengers through a secure automated system. Its members are upbeat and enjoy special benefits including a private parking space in the vicinity of the terminal at Schiphol airport. One can imagine the expanding benefits such a loyalty program could develop such as vouchers for shopping and VIP access to airport terminal shops, restaurants, Internet facilities and



Dartagnan iris scan machine used by Privium

entertainment. At the moment, Privium is voluntary and is an elite service for those who are enrolled and whose credentials have been pre-approved. This technology and the services surrounding it have been in development for several years and have been highly successful at Schiphol.

It is essential to remember that the translation of the biological into the digital is a translation based on a particular set of rules, algorithms that mark the body into a proprietary template. In this context, the ownership of the process is highly valuable if it becomes standard, especially on a global scale—the USVISIT program is valued at more than \$10 Billion.<sup>31</sup> Contracts awarded to other countries will exceed this figure and will be complicated by competing processing systems. Due to government's need to control its borders and safeguard its intelligence, different systems will be developed in each country. One can foresee an international traveler's biometric traits translated into many different country-specific templates.

The possibility that biometrics alone will stop a terrorist attack is unrealistic, though it can serve as a component and deterrent. However, biometric technologies can be used, in conjunction with networked data systems, to more accurately track individuals. One fact is constantly left out of the publicity of biometrics authentication programs—faking an identity before getting enrolled. If the main reason to institute the US VISIT program is to curtail the presence of terrorists on US soil, there is a serious problem in the fact that someone could fake an identity before getting enrolled, thereby becoming officially sanctioned with a modern biometric credential. But if the biometric trait can be registered, the possibility of that same person repeating the masquerade is less likely. Therefore, governments have a strong incentive to get biometrics systems in place as soon as possible. Nevertheless, there is a vulnerability of the system to this first-time invader who has faked their identity before enrollment. Is there a way to stop this type of unwanted invasion? Is there a way to filter out dangerous individuals based on their knowledge rather than relying on their previous indeterminately traced history?



P300 location

Dr. Larry Farwell and subject

#### BRAIN FINGERPRINTING

Brain Fingerprinting (BFP), developed by Dr. Lawrence A. Farwell from the University of Iowa is a scientific methodology based on an EEG test for establishing knowledge or nonknowledge of a particular event.<sup>32</sup> It is based on a test that detects fluctuations of a specific brainwave (P300) that responds to bits of information stored in the brain. The test is composed of a series of visual and auditory stimuli that describe a particular event. Only a small percentage of the stimuli shown to the subject (probes) directly depict the event, while the others function as equators. When the subject experiences a recognizable stimulus, the P300 will fluctuate. Unfamiliar stimuli will not trigger that fluctuation. This simple mechanism has been tested and validated on thousands of subjects in different contexts. In the context of a criminal investigation, for instance, a series of stimulus-brainwave correlations can provide a reliable profile of knowledge to determine a person's guilt or innocence.

Farwell's Brain Fingerprinting methodology works as follows. Words or pictures relevant to a crime are flashed on a computer screen, along with other, irrelevant words or pictures. Electrical brain responses are measured noninvasively through a patented headband equipped with sensors. Dr. Farwell has discovered that a specific brainwave response called a MERMER (Memory and Encoding Related Multifaceted Electroencephalographic Response) is elicited when the brain processes noteworthy information it recognizes. Thus, when details of the crime that only the perpetrator would know are presented, a MERMER is emitted by the brain of a perpetrator, but not by the brain of an innocent suspect. In Farwell's system a computer analyzes the brain response to detect the MERMER, and thus determines, in proximity to 100% accuracy, whether or not the specific crime-relevant information is stored in the brain of the suspect.<sup>33</sup>

The stimuli are broken down into "probes", "targets" and "irrelevants". In order to set a baseline, a series of irrelevants are used to measure an item that is not known whereas a series of targets are shown that measure what is definitely known. The probes are the meaningful information that proves knowledge (or non-knowledge) of a specific piece of information.

Although highly regarded, Dr. Farwell's patented procedure is criticized by other researchers. According to Dr. Emanuel Donchin of the University of Illinois at Champaign/Urbana, the "presentation of the specific probes is the point at which science ends and art begins."<sup>34</sup> People feel safer if they know that everyone has gone through


http://www.brainwavescience.com/JourForensicScience.php













Probes

Target

Irrelevant

"The timing is good. It will take a couple of years to put all the pieces in place so that this can be installed in airports. The government has a wide window in which to "time" the announcement to the public. In addition, a gradual phase-in period or "test period" at a single airport will help tremendously. Making travel more convenient with the new technology should be a major selling point to the public".

- Steve Kirsch<sup>36</sup>

the same amount of interrogation. Verifiable honesty could become a prerequisite to travel internationally. Steve Kirsch, founder of InfoSeek and Propel Software, is a technological entrepreneur and a supporter of the implementation of the BFP. He is developing his own system called Computerized Knowledge Assessment (CKA) that he would like to use for airport security screening (detailed on his personal website, www.skirsch.com). Among his suggestions: start by making CKA optional, "screen people periodically for any known threats (inside knowledge of Al Qaeda, anthrax handling procedures, etc.) and then store the results of that screening and their biometric information in a government database," "allow airlines to offer secure and non-secure flights," "...require a 10 minute test every 2 years and a 2 minute "refresh" test every 90 days (or as required in the event of a new terrorist threat), and the test could be completely anonymous".35

Mr. Kirsch is a passionate, wealthy, suburban, frequent flyer. He is used in this project as an archetype of the committed citizen and the staunch supporter of the BFP test to be used as a counter-terrorism method in the airport security context. He believes Americans should have a choice—to have a BFPcleared flight or not—and he has a plan. The analysis of patterns of thought and emotion through brain scanning and other forms of "mind reading" is rapidly being applied to the market. In 2003, marketers spent "\$1 billion...on focus groups, the results of which guided about \$120 billion in advertising."<sup>37</sup> With billions being spent on focus groups, advertising and marketing, new methods, with potentially increased credibility, hold promise and could shape marketing and advertisement techniques. As the efficiency of brain scanning improves and global competition ensues, diverse predictive solutions are being developed.

Neuromarketing is a relatively new field of market research

"A tool is a tool, and if the owner of the tool gets a decent rent for hiring it out, then that subsidizes the cost of the equipment, and everybody wins."

- Tim Ambler, Neuromarketing researcher<sup>40</sup>

### NEUROMARKETING

that incorporates scientific measurement of the brain's reaction to stimuli in order to better understand the consumer mindset. Brighthouse is an advertising and marketing consultancy. Its business strategy is to understand a company's "ethos" and develop marketing strategies based on this core. It has gained a lot of attention recently using the fMRI procedure to scan brains in order to map out a person's predilection for a certain brand or product. Brighthouse charges clients such as Coca-Cola, K-Mart and Home Depot on average \$250,000 per company study.<sup>38</sup> Although Brighthouse uses expensive and extensive fMRI equipment, recent advancements and findings using much less expensive electroencephalogram (EEG) systems could prove a convenient and practical alternative.<sup>39</sup> The future of neuromarketing depends on large numbers of subjects in order to adequately test and confirm its findings. Some people may decry the use of neuromarketing as an excessive invasion of privacy, "but as Tim Ambler, a neuromarketing researcher at the London Business School says: 'A tool is a tool, and if the owner of the tool gets a decent rent for hiring it out, then that subsidizes the cost of the equipment, and everybody wins."<sup>40</sup> References for Context Parts 4-6:

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These appearances of design and art, as well as others, have contributed greatly to the thinking and realization of this project. We have come to realize that, although coming from different disciplines, all of these works highlight a socially-critical value which is meaningful in our conceptualization.



# Afterlife

James Auger, Jimmy Loizeau http://www.auger-loizeau.com

Afterlife is a procedure that reconnects people, who have no religious conviction of any kind, to their deceased loved-ones. Auger and Loizeau propose the use of simple technologies to extract the Hydrochloric acid (Hcl) from the stomach of the deceased and store it in an electric battery that could be used in the domestic environment. In this way, the memory of the loved-one lives on and a post-life connection is established in a tangible manner.

Beyond the simplicity and clarity of the design concept, there is a quality of sternness to Auger and Loizeau's perspective on the afterlife. This simple connection of turning stomach juice into electricity, soul into light, creates a feeling of dissonance and mental discomfort in the viewer. The process they describe comes across as disturbing and unnatural yet perfectly logical because of its practicality and unassuming disposition.

The Afterlife project brings forward the potential and designscience relationship and illustrates how technology, however basic, can profoundly affect traditional social taboos.



# A-portable

Atelier Van Lieshout (AVL) http://www.avl-ville.com, http://www.mediamatic.net/cwolk/view/16280

'A-portable' is a renovated shipping container that functions as a nomadic gynecological clinic, providing abortion consultation and medical solutions for women. This floating clinic is anchored in international waters in vicinity of countries where abortions are illegal.

In their 'A-portable' project, the AVL group is providing a confrontational solution for a provocative, highly sensitive social problem. 'A-portable' shows how a simple design construct, in this case a service, can touch on a religious-legislative-scientific junction with its reality-fictional schizophrenic appearance.





## **Empire North**

Jacob S. Boeskov http://www.empirenorth.dk http://events.thing.net

Empire North is a weapon manufacturer that produces and distributes crowd-control weaponry. Empire North's main product is the Id Sniper, a rifle used by security forces in urban situations to identify and tag suspicious subjects. The ID Sniper fires a GPS-microchip implant into the body of subjects from a long distance with minimal physical discomfort to the subject.

Empire North is a fictional company with a real appearance. Boeskov, a Copenhagen-based artist and designer, has managed to create a form of "social fiction" by addressing a contemporary issue of global implications (crowd control) with an extreme, yet practical solution. Presenting himself as the CEO of Empire North, Boeskov exhibited a prototype of his product at the China International Exhibition on Police Equipment in Beijing, June 2002, and was approached by the Chinese police and Ministry of Security with immediate business proposals.

By wrapping a problematic concept (shooting people with computerized, inner-body tracking devices) with a sexy, hightechish design, Boeskov's project penetrates the borders of social acceptability.

### **Accelerated Democracy**

Jason Tester http://www.accelerateddemocracy.net

The penetration of technology into the American electoral system was accelerated following the 2000 voting fiasco in Florida. Accelerated Democracy introduces four possible scenarios for the role technological voting mechanisms might take in future elections. One of the scenarios portrays a personal voting agent, a software agent that monitors voter's digital actions (Web surfing, e-mail communication, chatting). The agent establishes patterns of digital behavior and concludes the voter's ideology. Upon this ideology, the agent makes recommendations for appropriate voting options.

Tester's project makes use of existing technologies, social behaviors and political trends to create applications that provide feasible solutions to realistic situations. The thought of giving an automatic system the power to recommend "ideology" and influence the realization of that ideology (voting) is easy to comprehend yet difficult to digest, which makes this project meaningful.





### etoy

#### http://www.etoy.com

Established in 1994, etoy is an online entity that "uses the corporate structure to maximize cultural value" (from the etoy website). etoy uses methods taken from the corporate lexicon to establish a powerful online brand, sell its product (values and ideas), share resources and information and attract new clients and members. etoy not only rejects problematic ideas of corporate globalization but positions itself as a proactive player in the global game.

Founded by an international group of thinkers, etoy is unique in the use of the global computer network to consolidate an alternative power with ideology and values that contradict existing global powers, namely corporate agents. etoy is taking the form of its ideological adversaries in order to fight them. It shows with unprecedented success that the very same strategies used (abused) to spread ideas of globalization and consumerism can be implemented to promote the opposite.

### Privium

http://www.schiphol.nl/schiphol/privium/privium\_home.jsp

Privium is a service provider operating at Schiphol airport in Amsterdam.

From the company's online brochure:

"Privium offers its members priority services, speed and comfort. With exclusive and efficient facilities such as priority parking in P2 or P3, check in at business class desks of participating airlines and fast-track border passage.

Privium is an interesting case not only for the biometric technology (IRIS scan) it utilizes for speeding up the security clearance procedure (around 15 seconds according to the company's publications), but mainly because it markets itself as an exclusive club that offers its members high-end services, such as priority parking near the terminal. Privium is a sophisticated actor in the air-travel sphere as it offers both services and loyalty to all four key parties: security to authorities, speed and cost-saving to airport operators and airlines, comfort and status to travelers.





# **Changi Airport**

http://www.changi.airport.com.sg/changi/index.jsp

From Singapore's Changi international airport website: "Pit yourself against the intelligent game systems at the Timezone Arcade. Video games, interactive games, simulators...take your pick and keep yourself challenged at Level 3, Terminal 2 near the Movie Theatre." And more: " 'What's Your Range' is a fun and rewarding gameshow. Passengers scored in trivia questions and winners walked away with Changi Dollars, exchangeable for products & services within the airport".

This airport is an example of a hyper-modern air-traveling venue as it is built as a complete living system, offering all services and supplying all needs and desires for the passenger. This is true to the extent that the passenger does not feel and act as a passer-through but rather as an inhabitant of this Disney-like metropolis.

http://www.qfconline.com/advantage.htm

### "Loyalty" programs

### http://www.nocards.org/

If you are not familiar with the phenomenon: You shop regularly at a medium-size supermarket. You get a card that earns you discounts, informs you on sales and saves you money. However, each time you scan a card at the register, your purchased items are recorded and stored into a database, linked to previous purchases. A pattern of your shopping behavior is being shaped and you are being "segmented" into a larger market group and evaluated according to your socio-economic status.

The loyalty card system is a mundane yet powerful marketing strategy for gathering personal information and transforming it into financially viable policy (such as taking cheaper products off the shelf, forcing the shopper to pay more as the venue has established the shopper's financial potential). This is an interesting approach to extracting highly personal information and using it as a tool for revenue enhancement– through an attractive package of exclusiveness and apparent profit.



Book cover for Mona Lisa Overdrive by William Gibson



Maywa Denki Bi-directional fisheye lens which provides a fish-eye view.

### **Mona Lisa Overdrive**

#### William Gibson

http://project.cyberpunk.ru/lib/mona\_lisa\_overdrive http://www.technovelgy.com

### From the book:

"Jerry's beeper went off while they were drinking coffee in Slick's room, huddled side-by-side at the edge of the bed. He'd been telling her as much as he knew about the Korsalov's, because she asked him. He hadn't ever really told anybody about it, and it was funny how little he actually knew. He told her about previous flashbacks, and then tried to explain how the system worked in jail. The trick was that you retain the long-term memory up to the point where they put you on the stuff. That way, they could train you to do something before you started serving your time and you didn't forget how to do it. Mostly you did stuff that robots could do. They trained him to assemble miniature geartrains; when he'd learned to put one together inside five minutes, that was it. "

The Brain lock was a technique to focus the attention of prisoners on a limited task, precluding the possibility of escape.

### Maywa Denki

http://www.maywadenki.com

Formerly a two-brother art unit (Masamichi Tosa retired at the age of 35, and Nobumichi Tosa succeeded his brother as the president), Mehwa Denki call themselves "Parallel-world electricians". They create artistic toys and instruments, but present them as "products" and perform live acts in what they call "products demonstrations". Maywa Denki constantly challenges people's perception of technology within a defined cultural context, and do so in a provocative and humorous way.



Film stills from The Parallax View test procedure





## The Parallax View (1974)

Joe Frady is a reporter who goes through the indoctrination provided by the Parallax Corporation to become a spy. The procedure consists of sitting in a chair in a screening room and being shown a quickly-paced series of images in a manner like MTV today, during which his brain is scanned to determine if he has the right (callous) demeanor for the job.

### A Clockwork Orange (1971)

Ludovico's Technique:

Alex, the brutal teenager is forced to watch a "a real show of horrors". His eyes are mechanically held open and forced to watch a series of brutal films. A concoction of drugs are administered as part of his "treatment". The films are progressively more unbearable and Alex eventually begs for the films to stop. Dr. Brodsky and his team have a good laugh. His "cure" consists of becoming sick whenever he feels violent.

We include A Clockwork Orange as the quintessential example of brutality presented impeccably.



## Blade Runner (1982)

"VOIGHT-KAMPFF MACHINE (V-K) -- A very advanced form of lie detector that measures contractions of the iris muscle and the presence of invisible airborne particles emitted from the body. The bellows were designed for the latter function and give the machine the menacing air of a sinister insect. The V-K is used primarily by blade runners to determine if a suspect is truly human by measuring the degree of his empathic response through carefully worded questions and statements."

http://www.brmovie.com/FAQs/BR\_FAQ\_Terminology.htm

# Concept

Global corporations are becoming more powerful than states...the annual values of sales of each of the six largest transnational corporations, ranging between \$111 and \$126 billion, are now exceeded by the GDPs of only 21 nation states and as a result, governments and politicians are loosing power. Corporations have a bigger influence on reality than government, and buying power is more important than voting power. A world where shopping has more political impact than voting is a threat to democracy.

- Dunne and Raby, "Design Noir: The Secret Life of Electronic Objects"

We see Acclairism as a logical progression of the "Timeline of Authoritarian Acceptability". As territorial borders become more scrutinized, the borders between other systems become nebulous. Authoritarian systems are taking on an extended role within democratic regimes, corporate dominance is rising as both a facilitator and an alternative to the political force, and directed consumeristic behavior is a global appearance of social control.

Within these mega-infrastructures, the definition of the individual as an independent self is also challenged. Biometric technologies defy the physical body as a "last frontier" for privacy and free choice as pervasive identification, authentication and surveillance controls are becoming commonplace.

# THE NOTION OF ACCLAIRISM

Acclairism is the name of a fictional social phenomenon. It represents a feasible situation wherein people willingly accept a highly invasive, highly authoritative manipulation in return for tangible rewards and superior social status. In this project, we utilize existing biometric technologies to facilitate futuristic situations in which three variables are tested: a change in social status of the participant, a change in degree of personal freedom as perceived by the participant, and as an efficiency of translating individual propensities into data-driven value.

## CONCEPTUAL STRUCTURE

To design the appropriate setting for this investigation we defined three main components: a spatial context, a technological apparatus, and a situation/experience.

### Space: the Airport

Airports are the most dominant demonstration of physical threshold between "nation-states". The contemporary (international) airport is a new breed of global urban space manifesting both global and local characteristics. It is also an integrative ecology of the two most important appearances of control: the coercive (through security procedures) and the manipulative (consumption of commodities and entertainment).

# **NEUROCAPITAL**

## **Technology: biometric**

Biometric technologies are advancing and becoming popular and acceptable as a tool of public screening and supervision. They are also controversial as to their potential for personal invasiveness and behavioral analysis.

### Situation: security clearance procedure

We have elected to focus on the pre-flight security clearance process. It is the experience in which the control gamut featuring authoritarian impact and individual freedom touch the extreme: high control of the individual by the governing power and powerlessness of the individual against this governing body or state.

# METHODOLOGICAL COMPONENTS Acclair

Acclair is a fictional company providing brain-testing services as part of an accelerated security clearance for air-travelers. Utilizing the Brain Fingerprinting technology (BFP), Acclair uses its members' brain output in conjunction with data aggregation processes to profile a person not only for security purposes, but also as a neuromarketing tool that provides market research value for its corporate clients. To its members, Acclair guarantees a soothing experience while being tested, transforming a sinister situation into a desirable service.

### **NEUROCAPITAL<sup>TM</sup>**

The core of Acclair is its Neurocapital<sup>™</sup> methodology. In its essence, it is a system that attributes market value to brain output and is able to determine the member's level of "trustability", i.e. to what degree he poses a security risk as well as what level of "consumeristic" prodigy—thus influencing his legal and social status in diverse everyday situations. Once the biometric data of a member is assessed, a dual reward system is applied: **Capitality** points are awarded in accordance to consumeristic potential and consist of financial benefits corresponding to different categories. **Amnesty** points augment the member's social trustability level (or status) and can be used in legally-challenging situations wherein the established security status of the member supersedes the felony at hand.

# ENROLLMENT -> AMNESTY -> TRUST

# Design



### TRANSLATING THE CONCEPT

Throughout our design process our intent was to design an experience that conveyed the concept of our project. We sought to design the system as real as possible, but also consider the performative aspects of the user experience and opt for a design that feels "real" rather than be technically perfect or scientifically accurate. On the other hand, we created a service that could be implemented today, using technology and ideas currently in development in research institutions and corporate consultancies.

### THE ACCLAIR BRAND Values

Trust, reliability, convenience and cleanliness are the core values of Acclair. Acclair is a security and neuromarketing service and needs to come across as the ultimate in protection for the member. It also needs to exude profit opportunities for corporations. As we began to "build the brand", we realized the advantage of leaving out what Acclair actually does (brainscans & neuromarketing) and focusing on the benefits to members and partners. The idea of trust as the core value works well with the concept of a trusted citizen that could develop out of Acclairism as a social phenomenon. All references to privacy invasion are neatly hidden or explained away as necessary tradeoffs for the added security and convenience of the new security clearance process offered by Acclair.



## Style/feeling

Acclair members are pragmatists who consider the current normal clearance procedure (long lines, undignified public searches) tedious, vulgar and dreadfully passé. User-seductive design and customer-centered service shape the face of Acclair. Our approach to Acclair is to make everything about it trustworthy, pleasant and convenient. Acclair is a central actor in the field of security clearance and neuromarketing and its special relationship with the government offers its members and corporate partners incredible safeguards and rewards that correspond perfectly with the current balance of political and financial power. We designed Acclair to counter the negative aspects of "Big Brother" and seduce the member into an inevitably authoritarian, yet pleasant future. As an exclusive club of frequent air travelers, Acclair exudes a delightful experience for its members. It provides a rich and lucrative rewards system corresponding to brain performance. As an information broker (through the Brain Fingerprinting technique), Acclair mediates highly accurate information between authorities regarding the member's security risk level. Using the same neuropsychological platform, it provides corporate clients with current profiles of "consumeristic" behaviors.



### Marks

The logo (a slightly altered Sevil pulled from a free font website) and the accompanying corporate typeface (DIN Schriften Neuzeit Grotesk Light) is futuristic, yet familiar: Acclair as a company can exist today as an advanced technology service for the elite-leaning frequent-flier class who participate in the necessities of modern travel. Using a minimal and clean palette of white and blue, we designed the presentation of Acclair to be stylish and corporate, a Teflon coat to a highly invasive procedure, but one that offers high value benefits.



Member looks at Targets Notebook

The BFP video "targets" (in this case, blue graphic patterns) serve as a branding strategy as well. Acclair BFP targets are used in the BFP test, but are also collected in Target Notebooks released each month and are part of the graphic branding scheme.









### MEMBERSHIP LETTERS

The tone of the Acclair message: Acclair takes care of its members and partners and offers practical and timely benefits. As part of the evidence of Acclair, the membership letter shows the place and prose of Acclair, a vehicle for a preferred class.



### MEMBERSHIP CARD

We designed a model of a smart card to be issued to Acclair members. The card is uploaded with the digital formation of the bio-data as well as the Amnesty and Capitality credit points earned by the member.

### THE SERVICE: PROCESS

We designed a service ecology that includes the enrollment process, security clearance, online account reference, neuromarketing and government interconnections, and rewards system. The Brain Fingerprinting test is the main interface that connects the member's brain to security clearance and market research protocols. Through this process, the member earns valuable rewards in two tiers: Amnesty that pertains to legal and government pardons and Capitality that relates to the member's consumeristic value to Acclair's corporate clients.



### **Enrollment center**

Background check, comprehensive BFP, sign disclosure document, IRIS scan, reward overview, receives member Neurocapital smart card.

01

03



02



# **CAPITAL Reward One**

Free international airline ticket with partner Virgin Air, upgrade to business class, Acclair oxygen lounge, limousine service upon landing.



AMNESTY Reward One Member gets drunk on flight, pulls out amnesty points and is not penalized.

04



00:09

00:16

### THE SERVICE: MEMBER ORIENTATION VIDEO

The Orientation Video is shown to the member after an extensive background check and profiling process. In this video, the member is shown the basic security clearance and Brain Fingerprinting procedure with a seductive and friendly style. The attendant's dress is designed based on a Chinese party dress with a classic Chinese collar and cross-buttoning across the neck. We worked with an Italian seamstress to copy the Chinese dress and make it look more official by straightening the lines of the collar to give it the feeling of a uniform. This video shows the member as mostly happy and pleased with the service process except in one key moment of uncertainty when he has completed the test and is waiting for the security clearance signal from the attendant (01:37).

This moment explains the uncertainty and authoritarianism inherent in the Brain Fingerprinting test and highlights the core dilemma—the user-friendly and seductive manner cannot hide the fact that if the member fails the test, there are unknown (and thus intimidating) consequences. Ideally, the video is shown on a wall-mounted plasma screen to add to its sleek quality.





00:24

00:22



00:27



00:34









### THE SERVICE: REWARDS

We developed personalized rewards in two tiers—Amnesty and Capitality. First we developed unique user profiles of potential Acclair clients and based the rewards on these personas to give the rewards relevance and meaning.

### **USER PROFILE 1**

### Maria Consuela Apayao

Miss Apayao is a female Pilipino foreign human resources importer working in Riyadh, Saudi Arabia. As her clients include young Philippine women, she frequently must deflect accusations that she is conspiring in the sex trade. She uses Acclair in order to raise her status and gain a needed special relationship with the border police where she must travel for her business. As she often brings gifts from the Philippines to her Saudi clients, her Capitality reward is a partial customs fees reduction. Capitality rewards are offered in varying degrees of financial benefit, the highest being business intelligence relevant to a member's line of business and country of destination.

Amnesty rewards relate to the trusted status Acclair provides. In a society that uses the BFP test as an evaluator of honesty based on the contents of the member's brain rather than other identification traits, frequent Acclair BFP tests earn useful levels of "trust" or amnesty points. These amnesty points could be "traded" against minor infractions in the host country

## **USER PROFILE 2**

### **Richard Williams**

Mr. Williams is a mixed-race US citizen who uses Acclair to offset prejudice against his racial makeup. He used his amnesty points to offset a bar brawl in the Czech Republic that he was involved in. He was charged with disorderly conduct, a misdemeanor in the host state, and used 45 Amnesty points to "pay off" the fine.



# Acclair Amnesty Cloak

The Acclair Amnesty Cloak (AAC) protects the trusted Acclair member's lifestyle. The package consists of amnesty units carried digitally on the Acclair smart card. These units translate into legal pardon in restricted situations as defined by the contractual agreement.

An Acclair member gains Amnesty units by successfully completing BFP tests as well as living a socially-trusted lifestyle.

Holder of the AAC will benefit from the following rewards (conditioned by minimum number of unit):

- Exemption from criminal offences classified as "misdemeanor" by authorities at country of use. (level C)
- Upgraded digital or physical protection provided by Acclair affiliates. (level B)
- Upgraded business intelligence relevant to member's line of business and country of destination. (level A)

Acclair Member No. :	AAC Level :	Updated No. of AAC Units:
3498004	A	265
Date of most Recent use :	Location of most Recent use :	No. of Units Deducted:
13.04.2004	Prague, The Czech Republic	45
Local Code of last offence pardoned :	Description of offence :	
R.S. 1985, c. C-46	A disorderly conduct in an public institution of gambling (Casino). While seemingly intoxicated, claimed to have been	
Estimated date of next BFP :	cheated by Casino operators, was verbally abusive and borderline violent.	
20.7.2004		



### Acclair Capitality (AC)

The Acclair Capitality package (part of the Neurocapital<sup>™</sup> platform) is designed to meet the need for an appropriate compensation to the neuro-investment made by Acclair members as well as to match the profitable enhancement corporate agents enjoy via Acclair members. The package consists of Capitality points carried digitally on the Acclair smart card. These points translate into a range of transactions and benefits of financial value, or their equivalent forms of social status, as defined by the contractual agreement. An Acclair member gains AC points by successfully completing BFP tests as well as living a trusted consumer lifestyle.

The basic AC structure offers three categories of Capitality benefits (level A being the highest):

Level C: DIRECT BENEFITS

- Tangible upgrades (flight, discounts, product appropriation, etc...)
- Fantasy fulfillment
- Restricted psychological review

Level B: DIRECT DIVDENDS

- Financial holdings (shares, bonds) in one of Acclair's corporate clients.
- Job/business propositions
- Loans in preferred conditions

Level A: INFORMATION

- Relevant business intelligence
- Relevant gambling information

A member may trade between levels, but is only allowed to trade down. (i.e. trade a level A benefit for a level B benefit, but not vice versa).

AC report for member 3644981 produced by Acclair:

Acclair Member No. :	AC Level :	Updated No. of AC points :	
3644981	В	742	
Date of most Recent use :	Location of most Recent use :	No. of Units Deducted:	
22.05.2004	Riyadh, Saudi Arabia	316	
Acclair Code of last AC event :	Description of AC event :		
AC-8320-04	Customs reduction. 3644981 is a foreign human-resource importer. Granted partial customs fees exemption by local authorities		
Estimated date of next BFP :			
11.06.2004			



Acclair installation at Interaction Ivrea End of Year Show, June 2004



Acclair installation at Fondazione Sandretto Re Rebaudengo, Turin, Italy, July

### THE BRAIN FINGERPRINTING TEST

In an isolated and comfortable space, the Acclair member goes through the Brain Fingerprinting test. In a one-minute test, she is exposed to a series of visual and sonic stimuli aimed to stimulate the P300, a brainwave response to a definite recognition of the stimulus shown. In accordance with the Neurocapital<sup>™</sup> methodology, the Acclair test is divided into security-related events and marketing-related bits of visual information. The results of the test determine whether or not the member is allowed to proceed onto his flight, and the summary of his brain reactions are evaluated to establish the extent of rewards received.



# the Brain Fingerprinting test

TECHNOLOGY: CUSTOM BRAIN FINGERPRINTING SERVER Acclair's BFP system links commercial and government databases to its stimuli database to serve personalized tests to its members for security clearance and neuromarketing. We designed the BFP technical system as a networked system that cross-checks databases and serves personalized images (stimuli) based on a member's data trails<sup>1</sup>. Acclair has access to a member's travel, medical, government and credit records. Each time a member travels, and therefore goes through another BFP, he is shown a unique BFP test based on data trails made between the current date and the last BFP (or enrollment). This session is known as an "upgrade," as if the member's brain is a piece of software that needs a version upgrade to function within the operating system of travel and border-crossing.

Using Acclair's thorough search system that is linked into key databases, a customized BFP is constructed "on-thefly"—visual and auditory stimuli (probes, targets, irrelevants) are assembled from Acclair's vast content data warehouse. A member's buying history and other relevant data trails determine which market research category the test will

push. In our design process, we used car manufacturers as the clients Acclair was researching for. The EEG headset monitoring system records the brain's reactions to the BFP stimuli. On the security side, a potential terrorist can be flagged if their brain reacts positively to a given set of probes. On the neuromarketing side, market research is conducted with both positive and negative reactions to probes, depending on the value a client has given to a particular target area. A feedback loop of stimuli reactions allows for "on-the-fly" alteration of the BFP test to follow a developing pattern. For instance, if a member is reacting positively to a terrorist hideout in Afghanistan, other images associated with this probe could be shown in place of the originally prepared one-minute test. The same principle holds for the way market research data could be served based on a developing pattern of reactions to product stimuli.

### Schematic structure for BFP test



### THE BRAIN FINGERPRINTING TEST STRUCTURE

The BFP test was initially designed closely resembling Dr. Farwell's structure—segmented into a series of 5 second stimuli+break chunks, each consisting of three to nine stimuli (1-3 stimuli per second) and one break (two seconds of black+silence). We made a decision to alter this structure upon receiving user feedback that the test wasn't intense enough. As our main intent was to create an experience of the concept, rather than a scientifically valid test, we made a more MTV-style version that is faster and varies the rhythmic pace of the stimuli for a more entertaining experience. This version alters the stimuli-break parts to 4 seconds, shoots off many more visual stimuli during the 3 second stimuli block, and limits the break to 1 second. Our user-testing indicated that most people considered the test "real".



# THE PROTOTYPE: THE HEADSET

The Acclair headset consists of an I-Glasses dual-monitor head-mounted display and a simulated EEG measurement system consisting of a silicone slab with embedded metal discs that lay against the user's forehead. The front of the headset is painted white and emblazoned with the blue Acclair logo. We went through two other forms before we settled on this version. The first version was more like a helmet, but was bulky and difficult to fit various head sizes. The second version was black and had a sado-masochistic flavor that we felt would distract from the concept.


# THE PROTOTYPE:

BRAIN FINGERPRINTING MONITOR INTERFACE The monitor visualizes several aspects of the BFP test associated with the tested Acclair member, including monitoring the instructions and BFP test videos, the brainwave monitor that displays the brain's EEG reactions to the BFP video stimuli, a security and ocular status area, and the Neurocapital points earned during the session. The control panel consists of instruct, examine, stop and reset buttons. The examine button skips the instruct section, which is normally viewed before the test and is therefore useful for reviewing a test with a user in a demonstration situation. Designed as a model of a possible system and an illustration of the test's function and benefits, the monitor is an effective tool in the demonstration and explanation of the BFP test. During a demonstration test, spectators are able to view all the functions and get an overview of what is happening. In the debriefing session that follows the test, a user can review the video stimuli, brainwave reactions, Neurocapital

correspondences, and also view their security status (green = ok, yellow = further screening necessary, red = barred from proceeding to flight). During our user testing, we generally let the user know that they have a green status—meaning they have passed the test. They are relieved, even while knowing that this is a simulation. Part of the discussion entails asking the question: "what would you do if the test indicated red?" This points to an authoritarian and secretive aspect to the test that is glossed over in the clean and seductive design strategy.



#### THE PROTOTYPE: INSTRUCTIONS VIDEO

Before the BFP test is conducted, a one-minute instructions video preps the member. Using a soothing yet firm tone, the female voice addresses the member in the familiar and notes that it is extremely important that they watch the video at all times, that watching the video will affect their eligibility to proceed on their way, as well as impact their Neurocapital value. For their safety, the attendant will monitor their condition at all times. The message ends with a seductive instruction to "relax and enjoy the journey". We designed this video to be the "face of Acclair"—seductive, clean, efficient, strict. Shot on a white background, the actor's face is without a body and the image and saturation levels highlight only the eyes and lips, leaving the rest of the face as faint outlines. This gives the face a polished aura—the Acclair face that exists only within the virtual space of the BFP test.



BFP video still: Neuromarketing Probe



BFP video still: Security Probe

## THE PROTOTYPE: BFP MINDFOOTAGE (BRAIN FINGERPRINTING VIDEO)

The BFP video is a one-minute series of images and sounds. Following the BFP structure described above (15 blocks of 3 seconds of stimuli and a 1 second pause), we show a mixture of stimuli—probes, targets and irrelevants. In the current simulation, we show a series of car interiors as the neuromarketing probes and sarin gas-related paraphernalia and terrorist hideout images for the security probes. The targets are a series of graphic patterns that we created as part of the Acclair branding and also serve to bind the test together visually using the familiar Acclair blue and white brand colors. Irrelevant images are a diverse collection of situations and happenings.



Acclair installation at Fondazione Sandretto Re Rebaudengo, Turin, Italy, July

#### THE PROTOTYPE: THE ACCLAIRISM INSTALLATION

We designed the installation as a demonstration situation to explain Acclair and offer some research behind the concept of Acclairism. The Acclair installation consists of the counter and monitoring space, the test chair, the headset stand and headset, the Member Orientation video displayed on a wallmounted plasma screen and an optional Acclair Process wall chart. On the counter is the monitor, conductive gel jar, Neurocapital membership cards, antiseptic wipes container, targets book and a flower vase containing blue glass pebbles and a white flower. Underneath the counter is a fluorescent light that spreads a glowing light at the foot of the installation giving the work an aura-like quality. All design considerations aim for the user-friendly, clean and efficient quality of Acclair. On an opposing wall, the Member Orientation video plays in an endless loop, casting its air of helpfulness and ease of use into the Acclair experience. Depending on the installation, a wall chart can be used which explains the user experience of Acclair and the rewards offered. To highlight the concepts of Acclairism, another counter presents the Acclairism notebook that contains the "Timeline of Authoritarian Acceptance," references to Dr. Farwell's BFP technique and a series of questions aimed at provoking debate. A laptop is linked to online information including the acclair.co.uk and Acclairism sites and brainwavescience.com (Dr. Farwell's BFP-based company website) and brighthouse.com (a prominent neuromarketing consultancy).



acclair.co.uk corporate website

## THE ACCLAIR WEBSITE

Acclair.co.uk is the branded corporate website that puts forward the Acclair happy face. Hypothetically based in London, the strategy for the .co.uk domain was to launch Acclair as a British enterprise marketing to the business class operating in the Far East and Europe. The goal is to establish an online presence to attract worldwide attention to the concept of the BFP pre-boarding security clearance and start a global debate on the efficacy and attractiveness of a system such as the one advocated by Acclair.



Evidence: anti-acclairism grafitti intervention, Ivrea, Italy 2004

# ACCLAIRISM: EVIDENCE

We created a Wall Street Journal article that describes the social phenomenon of selling "MindFootage" on the black market as evidence of the existence of Acclair. The idea of evidence is to show the concept existing within everyday society. It's also an opportunity to expose people to the concept from different angles and multiple media. In addition, we performed a graffiti intervention in order to highlight a possible backlash against Acclair, an illustration of the traces of Acclairism. The stickers are imagined as proof of a new trusted class developing, and the prejudices against those who are not "Acclaired".



Evidence: Washington Post article reporting on MindFootage sold on black market



Evidence: Mind Footage DVD sold on black market



Evidence: Acclairist trusted status filters out into society

#### **Reference Design Section**

1. Data trails are information chunks associated with the user, left behind in databases that are recorded when a network is accessed. For example, each time a credit card is used, the time, date, user, place of purchase is recorded and stored in a bank or other credit agency database. This information could be used to track a user's brand preference, habits, frequency of buying, etc.

# Conclusion



# **Hindsight and Foresight**

Acclairism is an evolving project.

We see our work so far as the foundation for both concept and system development and as such, we divide this introspection in two:

The experience – how did the Acclair system work? How did its users react? What components should be improved? How should it be exhibited?

Concept "value check" – is Acclairism a valuable idea? Intriguing? Is it relevant? Who might support it and who would find it objective? What direction should it take?

## EVALUATION SAMPLE

To this point, Acclairism was exhibited in two separate events:

1. IDII end-of-the-year show, Ivrea, Italy. A twoday exhibition attended by family members and friends, as well as guests for the design profession. The Acclairism exhibition setting included the testing chair, a control desk, an information area, and a large-screen video screening of the orientation film.

2. The BITE exhibition, Fondazione Sandretto Re Rebaudengo, Torino, Italy. A three-day exhibition of different interactive projects exploring the idea of borders between political, social and technological issues. The event was open to the public and visitors included design and art professionals, and critics—an Italian as well as an international crowd. Acclairism was set up similarly to the previous show, sharing a large open gallery space with three other projects.

Out of hundreds of visitors, we estimate the number of people going through the brain-scanning test to be 90-100.

The following insights originate partially from the educated and thoughtful commentary of our counterparts and teachers as well as our own deductions. Yet the most profound learning stems from the direct, natural, at times uninhibited reactions



All images this section: Fondazione Sandretto Exhibition July 2004

of the visitors who ventured to try the Acclair experience, and many others who have observed, listened and shared their opinions. We extend out gratitude to them all.

The Acclair experience

#### TECHNOLOGICAL SYSTEM

All features of the brain-scanning system should be upgraded and better integrated. At present, the system (hardware as well as software) provides a legitimate solution for a proofof-concept, but is not satisfactory as a manifestation of the "smooth" experience Acclair strives for, or as a mocked alpha version for a potential project.

Special attention should be directed to the head-mounted display. Although research in brain computer interfaces has made huge strides in the last five years with the use of brain implants as control and navigation devices [see 2,3,4 as examples], recent studies show that old-fashioned electroencephalogram (EEG) systems using scalp electrodes are just as reliable and less intrusive. [5,6]. We have used the I-Glasses dual-monitor head-mounted display and a silicone slab with embedded metal discs as a simulated EEG measurement system. Despite the fact that most users found the mere use of a head-mounted display interesting, it is a bulky, relatively heavy, uncomfortable device and

therefore unacceptable for our purposes. The next-generation head-mounted display should not only be lighter and more comfortable, but be naturally integrated with a set of electrodes and encompass the aesthetics of a streamlined, slightly futuristic object to match the Acclair brand projection. The interface of control monitor should also be revised and reflect the dynamics of an operative, state-of-the-art system.

### BFP TEST

The visual and sonic stimuli presented should be re-examined and improved, as well as the rhythm of the test. As previously mentioned, our design of the test contains the scientific core of the BFP methodology, but also offers an experiential, sensory-evocative construct that contributes to a more extreme mental and physiological reaction on the part of the user. Accordingly, the range of reactions from users was wide, varying from tearing eyes and expressions of mental distress to emotional and physical indifference. The feedback of a certain couple is particularly demonstrative of this diversity. The husband was exposed to the test while his wife anxiously watched over him. When she inquired as to his feeling, the husband replied: "it was nice" with a shrug of his shoulders. The previously reluctant woman agreed to be tested. She seemed quite tense and sat rigidly. After the test, having stripped from the head-mounted display, she opened her eyes and said: "I'm sorry. I couldn't watch it. It was just too much. I probably flunked the test, didn't I?"



## STEP-BY-STEP PROCESS

Overall we found the mockup configuration of the Acclair security clearance procedure efficient and productive. A visitor encounters the Acclair exhibition area in one of four ways: looking at the information desk, watching orientation video screening, watching a person being tested or listening to an explanation. If curious, the visitor will ask (or will be asked) to take the test. He will then be seated in the chair, receive a brief explanation of the simulated environment, go over the targets booklet, be applied with "conductive gel" and adjusted with the head-mounted display. Following the test, the visitor is approached by an Acclair representative and escorted to the control desk for debriefing. There are definite flows in this process, the most obvious of which relates to the briefing-debriefing part of the experience. In an exhibition space it is virtually impossible to isolate the individual experience and filter out crowd involvement. Consequently, different participants have gone though the simulation with different levels of knowledge as to the unfolding events and therefore developed different sets of expectations. In some cases they were closely escorted by a friend or family member and in effect went through a mutual experience. In other cases, visitors were tested knowing nothing about the aftermath of the test while others conducted thorough "research" beforehand and demanded comprehensive explanations, which were supplied on demand. Accordingly,

debriefing sessions, important to our cause as well as ethically appropriate, were inconsistent in length and value, determined by the number of people present (oftentimes encircled in multiple layers of spectators next to the control desk), queue for test and patience of the debriefed individual.

## OVERALL EXHIBITIONALITY

As in many interaction design projects, the physical form of Acclairism is in the core of the conceptual construct. As provocative and plausible the notion of bio-data as product and brain scan as a security solution might be, the true feasibility of the idea cannot be evaluated without the actual procedure.

The tangible manifestation of the "Acclairian" procedure suffers from an inherent duality: on one hand it should look, feel, and be marketed as a real procedure, a prototype of a future product, so that it can communicate the necessary message and lay out the platform for users' sincere opinions and emotional reactions. In that regard, advocating Acclair as an existing company, building a reliable cover story, and pitching the BFP test procedure as a Beta of a soon-to-beimplemented product is essential for the creation of the "social fiction". Alternatively, and regardless of important ethical issues, in order to make the transition from the procedure to the wider viewpoint Acclairism preaches, one has to clarify



the discrepancy between the experience and the ideological stance, essentially between Acclair and Acclairism.

This distance was impossible to create in the previous exhibition setting. Most people were subjected to information overload prior to the testing session due to listening, observing, or reading the written information material. They were "over aware" of the experimental and conceptual aspects of the exhibition. Some, however, were under informed, thus perceiving the procedure as curious and not experiencing the full palette of possible cognitive and emotional reactions the test would have generated, not being able to form an educated opinion on its potential outcomes.

We therefore see the optimal form of presentation as follows: Exhibition space is designed as a marketing space for Acclair, a service provider demonstrating its latest product. Presenters are dressed and communicate correspondingly. Pre-test briefing describes the procedure in the context of air-travel security and neuromarketing, elaborating on the financial benefits, stressing the safety and shortness of the testing procedure but also its experimental character. Ideally, the visitor is not debriefed until after getting the results of the test and being informed of his security status as well as his reward plan. At that point, he is fully debriefed as to the project objectives as well as for the reasons for his misleading. At the same time, in the case of an inquisitive participant who raises questions or objections, the presenter will encourage a discussion to the point of disclosing the true aim of the project if necessary. Written information will be available but not distributed

prior to test.

## Foreseeing Acclairism

# MATERIALIZING BIO-DATA

Only a fraction of our brain biochemical output is being processed consciously.<sup>1</sup> It is technologically conceivable to record the brain's "litter" and attribute meaning to it. It is more than conceivable, as neuromarketing methodologies demonstrate to some extent, that arrangements of personal bio-data may be valuable to economic entities and consequently benefit their "creators". With the BFP methodology as well as other brain-scanning techniques it has also been shown that bio-data could be applied as an effective security filter.

# BIO-DATA IN THE CONTEXT OF THE AIRPORT

The modern airport embodies the interests of three megaforces: the political force of the state, the financial force of the corporation and the psycho-social force of the traveling individual. We offer a model in which the interests of all parties meet through a biometric security procedure: the state,



through data aggregation and constant BFP testing widens its control over local and foreign travelers. Corporations have the opportunity to collect marketing data and try out marketing schemes in controlled, repeatable and frequent situations – with a precise aim at the "kinetic elite" and high-end consumers. The traveler is introduced with a convenient and sensible way to pass through security. He is also classified and rewarded for his mind "litter".

## OTHER EFFECTS OF BIO-DATA COMMODITIZATION

The Acclair model of bio-data use may produce a new social assessment scale, in effect, a new type of discrimination, where a person's social status (oftentimes with direct link to his ability to travel) is assessed based on his bio-data rather than country of origin, color of skin, or even past behavior. It could be speculated that routine brain scanning might reveal medical and psychological conditions that require treatment and create situations that not only affect the subject and his immediate surroundings but also imply great changes to public and private health-care systems and the pharmaceutical industry. It is also not unimaginable to assume the commercial use of brain scanning in the context of air-travel as a personality evaluation tool, similar to tools currently used in the professional and educational placement industries or romantic-sexual matching services.

## ACCLAIRISM AND ANTI-ACCLAIRISM

The thinking model we propose is not lacking contradictions. It offers the elimination of racial profiling as a security screening method yet presents a machine-based evaluation system, a system that could be error-prone, yet almost impossible to overrule. It proposes a channel through which a person can be financially rewarded for his brain output yet his brain will be brutally and consistently invaded. It is based in contemporary technology yet assumes fictional social values. In many ways the model of Acclair is a form of "Delightful Totalitarianism" - an assortment of procedures and treaties revolving around the human brain output benefiting both the individual citizen and governing systems in power. We do not try to settle these contradictions nor do we advocate the Acclairian model, or the social aftereffect it might instigate—Acclairism. We aim at creating a stir over these controversial phenomena. Ideally, such a stir would generate cultural descendants such as black-market merchandise, media misinterpretations etc., and give rise to counterphenomena, Anti-Acclairism.



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