

Paper to be presented at the DRUID Tenth Anniversary Summer Conference 2005 on

**DYNAMICS OF INDUSTRY AND INNOVATION:
ORGANIZATIONS, NETWORKS AND SYSTEMS**

Copenhagen, Denmark, June 27-29, 2005

**SYSTEMS OF DEMAND INNOVATION AND THE EVOLUTION OF BRITISH
RESORT TOURISM***

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Abstract

The 'systems of innovation' literature examines how a set of institutions responsible for knowledge creation and diffusion stimulate innovation, thereby driving economic growth. While typically related to supply side innovation, we focus on how they stimulate innovation in consumption technologies and changes in the consumer's propensity to adopt novel goods and services – what we label systems of *demand* innovation. We contend that the degree to which consumers heed expert advice depends on how efficaciously such advice fits with the consumer's preexisting set of learning habits. In the case of consuming medical treatments, we argue that consumers in pre-industrial Britain had a habit of evaluating their effectiveness according to the immediate physiological reactions they elicited. This helps explain how resorts underwent a) a geographical relocation given the biometeorological nature of medical knowledge, and b) a functional transformation from being a defensive good (consumed in order to avoid pain) to being a creative good (consumed in order to attain pleasure). Welfare effects of the systems of demand innovation are discussed.

Keywords: Innovations systems, Evolutionary Consumer Theory; Resort Tourism.

JEL Classification: N33, D10

* This paper was presented to the Creative Goods Group at the University of Cassino in October 2004 and to the Evolutionary Economics Unit at the Max Planck Institute for Research into Economic Systems in August 2004. I am grateful for comments received on both occasions. The usual disclaimer applies.

Resort. A place to which persons repair. Now frequently used in combination with *health, holiday, seaside*, etc. -Oxford English Dictionary.

1. Introduction

The 'systems of innovation' literature examines how a set of institutions that promote knowledge creation and diffusion (typically related to science and education) drive innovative activity and stimulate growth and change in industries (Freeman, 2002). As Freeman notes, it is an attempt to come to terms more systematically with the social capability for technical change. Although this literature emphasizes how such institutions influence supply side change, understanding how they influence demand side learning and consumption patterns is still relatively neglected. Whilst a good start has been made by such authors as (Bünstorf, 2003; Jeppesen and Molin, 2003; Ruprecht, 2002; van den Ende and Dolfsma, 2005), yet as (Khalil, 2003) notes, most scholars seem to be entrenched in either one of two extreme approaches to the issue: Consumer tastes are seen as generally fixed, where any changes in consumption patterns are usually attributed to technological improvement in goods supplied or marginal changes in the productivity of consumption (Lancaster, 1966; Stigler and Becker, 1977), or they are perceived as utterly open to the influence of social forces, thus changes in tastes are largely an outcome of changes in social institutions and advertising methods (Galbraith, 1958).

Moving beyond these caricatures and by understanding consumers to be in a continuous process of 'learning to consume' (Witt, 2001b), this paper posits that the degree to which consumers heed scientific advice is not fixed at one extreme or the other. Rather how influential such institutions are depends on how efficaciously their advice fits in with consumer preexisting learning habits. This approach is part of a greater evolutionary tradition that emphasizes the boundedly rational nature of agents and their use of 'routines' or 'rules-of-thumb' to guide behavior on an essentially non-cognitive level (Nelson and Winter, 1982; Simon, 1978). In the case of consuming medical treatments, we argue that consumers in pre-industrial Britain had a habit of evaluating their effectiveness according to the immediate physiological reactions they elicited. This influenced not only what treatments & scientific theories became popular and accepted, but because these treatments were largely based on the use of such immediate natural inputs such as water, air and sunshine, it also affected the geographic location of health resorts. In the longer run, this behavioral regularity also contributed to creating the conditions in which resorts underwent a functional transformation from being a defensive good (consumed in order to avoid pain) to being a creative good (consumed in order to attain pleasure) (Scitovsky, 1976), as a new generation of consumers visited resorts more for the sensory experience *per se*, rather than the 'healthy effect' that was associated with it.

From a more general perspective, an interesting question is what impact these scientific institutions had on consumer welfare. Here Menger reasoned that the advancement of science would benefit consumption technologies by slowly wiping out

'imaginative goods'- goods which are consumed on what turn out to be essentially false pretenses (Menger 1950:53). The case study shows that such scientific advances does improve consumer welfare since they give consumers a better understanding of what the effects of treatments were. However, it simultaneously shows that certain imaginary goods were to some extent an unavoidable byproduct of such advance because it periodically promoted the use of novel treatments whose real effects were as yet unknown, some of which indeed turned out to be useless but nevertheless became quite popular.

The paper is structured as follows: Section 2 builds a methodology for examining the dynamic influence of scientific institutions on consumption tastes from a evolutionary approach, which emphasizes how non-cognitive learning may play an important role in guiding consumer behavior. Section 3 then uses these considerations to theorize what may explain the way in which British resorts radically changed in both its functional use and its geographical location. In order to test these hypotheses, Section 4 conducts a qualitative case study of the history of resort tourism. Section 5 discusses to what extent the case study provides evidence for these hypotheses and briefly discusses the welfare impact of systems of demand innovation. Section 6 concludes.

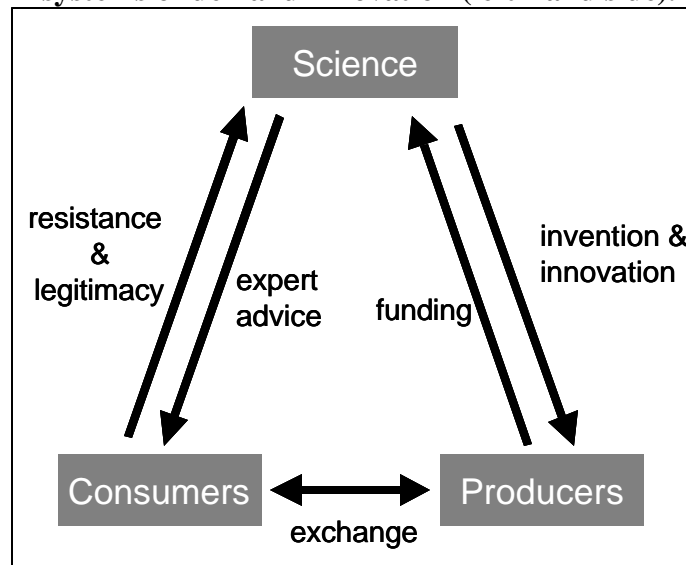
2. Systems of demand innovation and the evolution of consumption

Evolutionary economics posits that to properly understand economic growth one must first understand the way in which knowledge develops (Loasby, 1998; Nelson and Winter, 1982; Smith, 1776). Knowledge growth drives economic activity by influencing both consumers' lifestyle choices and producers' production decisions. Choice is not so much a function of preferences, but a function of knowledge, of which preferences are a subset. From facing continually new situations, agents, firms and societies learn and hence their knowledge base continually changes, which in turn changes the way they act, produce, consume and organize in the future. Modern evolutionary economics is thus especially focused on studying how *new* knowledge affects boundedly rational agents, and the system within which they act (Dosi, 1982; Witt, 1992).

From the supply side, the 'systems of innovation' literature examines how a set of a set of institutions responsible for knowledge creation and diffusion (typically related to science and education) drive innovative activity and stimulate growth in industries (Freeman, 2002:193). As Freeman notes, 'systems of innovation' could be described as an attempt to come to terms more systematically with the social capability for technical change. Abramovitz (Abramovitz, 1986) coined the expression 'social capability' to describe the capacity to make institutional changes which led to the divergence of national growth rates. Thus, despite a practical tendency to focus on how institutions of science and education impact supply side change, such a broad definition can theoretically incorporate demand-side elements. Indeed many of the issues related to coordination problems (Foss and Lorenzen, 2004) and collective learning (Lundvall and Johnson, 1994; Stroper, 1997) in innovation systems literature are equally relevant to the problem of understanding how consumers tastes are coordinated a) with other consumers to achieve consumption externalities in the case of network effect (Earl and Potts, 2004; Katz and Shapiro, 1985) and b) coordinated with suppliers to ensure standards of quality (Langlois and Cosgel, 1998). Consequently, this paper uses the same long term

historical approach that is used to study supply side ‘innovation systems’ to investigate how consumer learning processes and advances in scientific knowledge can co-evolve and thereby shape the nature and rate at which consumption patterns change. This relationship we label systems of demand innovation, as displayed on the left-hand side of figure 1:

Figure 1: Systems of innovation (right-hand side) and systems of demand innovation (left-hand side).



With regards to demand evolution, the basic problem for the consumer in an evolving economic system is one of knowing and learning, what to want (Earl and Potts, 2004). As knowledge becomes increasingly specialized, the list of products on offer is enormous and growing rapidly, enabling affluent consumers to diversify in many different directions (Saviotti, 1996) and choose particular sets of goods as means to live out particular lifestyles and uphold particular identities (Earl, 1986). Many of the new goods that the consumer might purchase are not merely novel in the sense depicted by Lancaster (Lancaster, 1966), namely, simply technological improvements of old commodities, offering bigger outputs of existing characteristics. Rather, new goods are often novel in that they are unknown to or have not hitherto been experienced by the consumer (Bianchi, 2002). Like managers of firms, consumers are frequently making hard-to-reverse decisions to invest in durable goods whose secondhand markets are far from perfect.

Given the increasing complexity of consumption environs, authors as far back as Menger recognize that certain scientific institutions do play an important role in guiding consumer behavior. Specifically, he suggests that the scientific knowledge that comes with economic development improves consumer’s welfare by promoting those consumption technologies which are in some sense relatively more ‘objectively accurate’(Menger, 1950:53). Such progress will essentially wipe out those goods that are consumed on pretenses that are essentially false, such as aphrodisiacs, love potions and amulets. These he labeled ‘imaginary goods’ and argued that they occur when 1) attributes are erroneously ascribed to things that do not really possess them, or 2) when

non-existent human needs are mistakenly thought to exist. Notably, in the first category he mentions ‘the majority of medicines administered to the sick by peoples of early civilization’ and in the second category he mentions ‘medicines for diseases that do not actually exist’ (Menger 1950:53).

Since Menger’s time, studying how consumers react to information from other consumers and experts has been widely explored both in the optimizing framework (Akerlof, 1980; Banerjee, 1993; Bikhchandani *et al.*, 1992; Conlisk, 1980; Nelson, 1970; Rosen, 1981) as well as from a more heterodox perspective (Cowan *et al.*, 1997; Mokyr, 2002; Rogers, 1962; Witt, 2001b). Beyond economics, many scholars point out that how agents coordinate learning is not only vital to understanding economic behavior, but also to accounting for how civilizations evolve and function in general (Bandura, 1986; Richerson and Boyd, 2004).

However, this tendency to emphasize the role of experts in guiding consumption begs a question that seems just as difficult to answer as the problem it seeks to resolve: How do consumers learn which experts to rely on? It seems that the consumers’ state of unknowledge, which leads them to consult experts in the first place, simultaneously renders them disadvantaged in determining which advice to heed and to determine how effective this advice is. At its core, such expert advice is itself a type of higher order good that consumers employ in the consumption process (Menger, 1950:68). As such, it intrinsically adds a degree of complexity, another casual association, which consumers have to deal with. From a long run perspective, this is an important question given that displacing entrenched folk law and corresponding imaginary goods can take considerable effort (Bauer, 1995; Morlacchi, 2004; Ruprecht, 2002). In some cases, there are examples which ironically suggest that in order to reach a position of influence with which they can guide consumer learning, experts may first have to convince consumers by precisely the same logic that they aim to correct (Mokyr, 2000).

In order to gain a better understanding of what determines the extent to which consumer heed scientific advice, we first need a better idea of how consumers learn on both the cognitive and non-cognitive level. Learning is the capability of human beings or animals to modify their behavior according to their experiences, beyond instinctive reactions and in a more or less permanent way (Anderson, 2000:1). The product of learning is knowledge. This includes our “habits and skills, our emotional attitudes, tolls and our institutions,” which all adapt to past experience (Hayek, 1960:26). How learning is organized on the technical, physiological, cognitive and social dimension is dependent on a number of interacting elements (Ruprecht, 2002; Witt, 2001b): a) The consumer’s evolved wants which motivate consumption; b) The material things, such as tools and inputs, that are used in the consumption process; c) the mental techniques which these require; d) the social authority from whom the consumers learn; e) the more general ‘interpretive frame’ by which the consumer cognitively interprets problems faced in consuming and evaluates the effectiveness of potential solutions¹(Witt, 2001a).

In his discussion of how consumption becomes specialized, Witt emphasizes that economists need to pay more attention to the essentially non-cognitive manner in which

¹ According to social psychology, the human mind always ‘frames’ information with already existing interpretation patterns (knowledge representations) even on the level of deliberate reasoning and thus produces mental attitudes of a fairly rigid nature (Bandura, 1995).

consumer learn (Witt, 2001b:29), in much the same way that Simon as well as Nelson and Winter conjectured that ‘rules-of-thumb’ or ‘routines’ play an important role in guiding behavior (Nelson and Winter, 1982;Simon, 1978). Starting with the basic tenets of behaviorist psychology, Witt suggests that via associative learning, consumers can develop ‘acquired wants’ in which an association between neutral and rewarding activities leads the consumer to develop a taste for the formerly neutral stimuli (Witt, 2001b:29). The strength of acquired wants fade if the association on which they are based is not at least occasionally corroborated. This idea that consumer behavior may be guided by such acquired wants suggests a simple alternative in which consumers deal with complexity in the act of satisfying their wants. Instead of endlessly deliberating on the possible casual connections between goods and outcomes, consumers simply rely on their conditioned tastes to guide consumption. However, it is important to note that acquired wants do not necessarily have to reflect associations that can objectively satisfy the consumer’s want, they merely have to coincide with the attainment of positive reinforcement. As a result, the wrong associations can be made between the exteroception of sensory stimuli and the interoception of reinforcement (Skinner, 1953:51).

Consequently, we postulate that the effectiveness of expert advice –as an alternative way of assailing complexity that appeals to more cognitive learning– may be tempered by the consumer’s preexisting set of acquired wants – which act on the non-cognitive level. This set of associations that are based on past experiences essentially informs the consumer in a very basic and immediate manner of what is good or bad, and indeed what is effective. In the same way that Pavlov’s dog started to salivate when hearing the bell ring (Skinner, 1953), and natives experience an immediate adrenalin rush in the presence of dangerous bears (LeDoux, 1996), consumers may have formed associations in other contexts which influences the way they assess effectiveness of new goods and services. Indeed, examining Menger’s list of imaginary goods that were supposedly extinguished by scientific progress, it seems that many of these are associated with stimuli that elicit strong and immediate physiological reactions. For example, aphrodisiacs, love potions and to a lesser extent cosmetic are associated with sexual arousal. Thus, consumers faced with complicated situations and not knowing better, may simply use acquired wants to evaluate the effectiveness of new goods².

3. A theory of resort evolution

At first glance, the historical emergence of British resort tourism may seem like a strange place to investigate the long run impact of scientific advance on consumption patterns.

² In the last three decades, understanding how agents use a small set of judgmental heuristics in situations of uncertainty and how these can lead to characteristic error or biases has become a popular topic in behavioral economics (Kahneman *et al.*, 1982). At the same time, this mainly experimentalist programme has been heavily criticized for containing problematic methodologies and imprecise definitions of what precisely constitutes a ‘bias’ (for example see (Gigerenzer.G., 1996)). Without wanting to down play this debate, for the purposes of this paper we do not discuss emotions per se, but rather only the immediate physiological sensory experience that a particular treatment elicit and how these impacted the the long run development of consumption patterns. For more discussion about the role of ‘intuition’ and ‘emotions’ guide and motivate economic behavior see (Frank, 1988;Frantz, 2003;Loewenstein and Lerner, 2002).

Yet, as Herbert Simon noted, the modern practice of tourism has a peculiar – if not inefficient– character (Earl, 2001). Why do people travel? If it is to gain information (“to see what its like”), the local library provides a cheaper, quicker and easier way of finding out (Simon, 1996:306). If it is to relax and unwind, why bother exposing oneself to the many risks involved in traveling? Nevertheless, tourism has risen to become one of the leading global industries, representing 11% of global GDP and one of the major migratory movements in modern society (about 700 million international travelers in 2001(UNEP 2004). Visiting seaside resorts with the typical ‘sun, surf and sand’ features represents almost half of the tourism market (Papatheodorou, 2004). Tourists generally consider their stays in such natural environments to be beneficial to their health and general well-being (Bukart and Medlik, 1992;Inglis, 2000;Parrinello, 1993).

In most historical accounts, the rise of resort tourism is simply interpreted as a natural development of the industrial revolution. In the first half of the nineteenth century, coastal resort towns showed a faster rate of population increase than manufacturing towns; 2.56 per cent per annum in coastal resort towns versus 2.38 per cent per annum in factory towns (Lickorish and Kershaw, 1975). Its timing is largely attributed to the growing numbers of consumers who considered themselves middle class that constituted a buoyant demand for the seaside in the nineteenth century (Towner, 1996:173). Others emphasize the role that Thomas Cooke played in inventing organized tourism (Urry, 1990). He first chartered a train from Leicester to Loughborough for a temperance meeting in 1841, and soon after used the same mode of transport to arrange seaside outings for factory workers³.

However, what these accounts usually neglect is the fact that prior to the industrial revolution, there already existed a well-established resort industry in Britain that possessed both the economic infrastructure and the pleasurable stimuli which were easily appreciated by the new generation of consumers. Furthermore, from a historical perspective, these important features can not be considered by any means to be a constant and predestined characteristic of resorts. Indeed, the first generation of resorts which emerged at a number of inland mineral springs in the 15th century were mainly frequented by pilgrims and seriously-ill patients, and did not involve cures and treatment which could be regarded in any way as pleasurable (Hembry, 1990). Later, in the early 18th century early seaside resorts were characteristically used in the winter and autumn months, where the water was at its coldest- again the main sensory experiences associated with resorts were not very pleasing (Lencek and Bokser, 1998:76). In this way, the growth of resort tourism requires a more detailed explanation that goes beyond the standard approach of attributing changes in consumption patterns as a simple combination of increasing income and improving technology meeting a latent and

³ The temperance movement formed in reaction to a alcohol epidemic that plagued the first generation of factory workers during the industrial revolution(Dingle, 1972). This epidemic peaked in 1875 where around 34 gallons of beer and one and a half gallons of spirits per head was consumed amongst the working class. Despite increased incomes, many workers were living in secondary poverty due to the ‘nutritionally unwise’ allocation of income (Oddy, 1970). Soon after Thomas Cook organized day trips to the seaside, employers, churches, social movements, politicians and labor organizations joined forces to organize the first mass for workers excursion to seaside resorts (Walton, 1981). Indeed, the seaside excursion played a large role in encouraging worker to develop savings habits and abandon traditional leisure activities consisting mainly of drinking and gambling, increasing the efficiency of labor (by reducing absenteeism), and provided an impetus for the establishment of official holiday periods.

constant type of consumer demand (Lancaster, 1966). Rather, the motivations for consuming the resort experience and the hedonic characteristics that were associated with it were subject to satiation and radical change.

To explain this functional mutation of British resorts from being used as an expert-promoted instrument to cure sickness to becoming essentially a center for recreational stimulus sampling, we propose that the elicitation of strong and immediate physiological reactions were perceived as a type of reinforcement when consuming medical treatments. These immediate physiological reactions were basically used as rough approximations for processes and causal connections that were too complex for consumers to discern⁴. Such a hypothesis seems intuitive given that these reactions are essentially signals to the mind about the state of the body (Damasio, 2003). By making such a association between stimulus and response, consumers developed an acquired want that tempered the degree to which new expert advice was heeded in the future.

Hypothesis 1. Consumers possessed an objective bias for those treatments that elicited immediate physiological reactions.

Hence, the probability of a devised treatment being successfully adopted by consumers was related to its objective ability to elicit an immediate physiological reaction in consumers. In the longer run, if such a bias is sustained over time, this implies one would expect that the trajectory along which resort treatments evolved to not only reflect scientific advances, instead these would also evolve towards forms that were more reliable in eliciting immediate physiological reactions in consumers.

Hypothesis 2. The biometerological treatments that resorts offered did not only change to reflect the latest scientific advancements, but they also moved towards those techniques that were more reliable in eliciting immediate physiological reactions .

Given such a dual selection criteria for new resort treatments, a reason for the actual functional mutation of resorts may lie in the simple fact that these physiological reactions may have altered the developmental trajectory of resorts to eventually set up the conditions in which consumer began to visit resorts more for the physiological reactions per se, rather than the cures which they were originally thought to represent. Such physiological reactions are intrinsically of hedonic value, ie. they are painful or pleasurable. From this perspective, scholars have recognized these may not just be used as a heuristic, but that they also act as a incentive to act (Ainslie, 2003;Frank, 1988:51). In other words feeling pain or pleasure is not only of deliberative value in providing consumer with clues pertaining to the usefulness of certain goods and services, but they are also of hedonic value, in that they can motivate consumption.

⁴ In much the same way economists use the imaginary concept of utility as a proxy for something they deem to complex or inappropriate to explain (Witt, 2004).

Hypothesis 3. The above interaction between consumer learning habits and the available resort treatments created the conditions in which a new generation consumers visited resorts more for the sake of the sensory experience per se, rather than the “healthy effect” that was associated with it.

Together, these hypotheses outline how the interaction between consumer’s acquired wants and the advice that was offered by scientific experts played a role in how resorts essentially became fun. They do not seek to neglect traditionally important variables such as the improvement of transport technologies, and increasing incomes, however these alone do not seem to provide a proper explanation of how these resorts underwent a functional transformation from a defensive good (consumed in order to avoid pain) to a creative good (consumed in order to attain pleasure) (Scitovsky, 1976). To verify these hypotheses, in the next section we conduct a case study of the development of the British demand for seaside resorts which focuses on how the relationship between consumers and such ‘scientific’ experts historically emerged and grew, thereby providing further insights into Menger’s hypothesis about the general impact that scientific experts would have on consumption patterns.

4. The history of resort tourism

4.1 Medieval to post-reformation era.

Since before recorded history, the healing power of water has been a popular theme in many religions (Routh *et al.*, 1996). Hinduism, Judaism, Islam, Buddhism and Christianity all relate washing to religious purity. Moreover Egyptians, Sumerians, Babylonians, Aztecs, Greeks and Romans all developed medicinal and religious rites associated with water. During the Roman empire, extensive use was made of mineral waters and most of the thermal springs in Europe were discovered, as well as those of Bath and Buxton in England (Hembry, 1990). Sea bathing was used for the treatment of gout, foot disease, sciatica, fever, psoriasis and wounds. Even in this early era, such baths were not used for purely medicinal purposes alone, for example they also used baths and very hot water to renew their appetite and thirst after lengthy feasts (Routh *et al.*, 1996).

As the Roman Empire declined, the use of mineral springs diminished and the baths were generally neglected or destroyed. In the middle ages, many wells were adopted by the early church and dedicated to saints (Hembry, 1990:4). Over time, the number of mineral water springs that were deemed ‘holy wells’ proliferated in England as the poor carried their sick there to be cured of a variety of ailments. A survey in 1893 found 450 of such holy wells located throughout Britain. In using these waters, consumers usually consulted priests and monks. They treated disease as a symptom of sin, and thus church doctrines often championed healing rituals which involved the use of relics, offerings made in fulfillment of vows, pilgrimages, holy waters, shrines and cults (Porter, 1996).

While there exist few detailed sources on medieval resorts, one can deduce that given the emphasis on faith, no systematic method of using the spa water as a cure developed. Many early physicians were appalled by the essentially chaotic nature in

which these waters were used in all sorts of ways to treat all sorts of cures. Walter Bailey⁵ wrote in 1587:

“I found great concourse of all sorts of people affected with sundry and dissident diseases, which all in one manner used the waters, both inwardly and outwardly without counsel or any just consideration, carried away with opinion, as it seemed that the faculties and virtues of them, were supernaturally given from God without any ordinary means, and so the use of the same not to depend of any order or advise of Physicke, but that it was sufficient by any means to use them. Much like unto the superstition of our forefathers...”(as cited in Harley, 1990:49).

The reformation provided the first impetus to reform how such waters were used to treat sickness and the healing properties of the water were scrutinized. This saw the start of secularist experimentation in the art of ‘balneotherapy’- the study of the effect of spa water on human physiology (Hamlin, 1990:68). In the face of continuing use and the growing number of physicians who endorsed ‘scientific’ water cures, Queen Elizabeth’s government allowed the use of water for healing only if the water contained proven mineral waters where no miraculous element was claimed (Hembry, 1990:6). The demand for healing waters also reflected the fact that people were suffering from a great many diseases such as the plague and syphilis epidemics of the 14th and 16th century and were desperate to try any type of cure. Hence a great number of spas were opened with a purported wide range of both water qualities as well as actual treatment methods.

As physicians replaced priests in consulting consumers, a wide range of distinct consumption techniques emerged that were unique to a particular physician or location. This diversity in techniques occurred partially because the physicians viewed each individual waters as unique, irreducible and inimitable (Hamlin, 1990:70). Indeed, Harley argues that the development of early chemistry was severely hampered by the popular view held by physicians that water was not perceived as a element or a chemical compound: Rather it was a complex entity which possessed a certain ‘spirit’ that transcended analysis or capture. Commercially, this meant any particular spring water’s effect on the patient could not be copied by competition, the water itself could not be substituted for by the consumer, or refined by the chemist. Further, drinking such ‘living water’ was possible only at the spring; bottle versions were seen as inferior. In such an environment of mystique and uncertainty, a salient clue that these physicians were somewhat influenced by commercial interest is that they rarely suggested that their own spa was actually dangerous, although they had little hesitation in suggesting that other waters could be lethal (Harley, 1990:49). Irish physician Charles Lucas wrote in 1756:

“Most of the voluminous and numerous tracts, and of these the most pompous... have been published by men living and practicing upon the spot.. always interested in the fame of the particular water, which was their idol.. such a man’s evidence therefore be deemed as doubtful, concerning the efficacy of his favorite

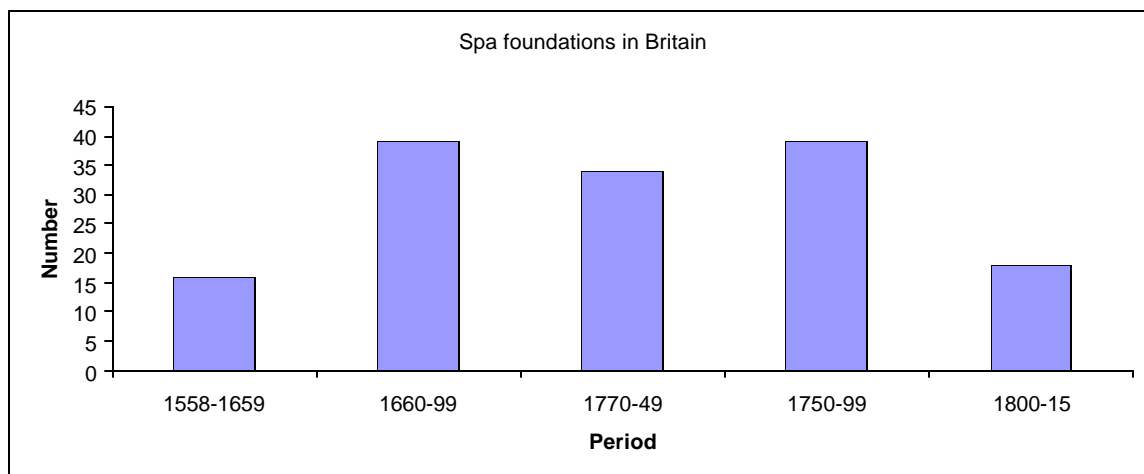
⁵ The protestant Galenic physicians were the first people to wrestle authority over the spa water away from priests. However, while openly criticizing priests as illegitimate authorities on medicinal cures, they themselves were still prone to mentioning the role that God’s providence in the promotion of their waters. “the disposing hand of providence hath settled me in Lewisham, the place which God, out of his liberal bounty hath blest with this Medicinal water”, (Harley, 1990:49). Hence aquatic therapy was still being openly promoted as a vehicle for ‘spiritual’ regeneration

water, as that of any other priest touching the miracles of the shrine, by which he gets his daily bread,”(as cited in Hamlin, 1990:69)⁶

In terms of the reinforcement that consumer sought, the evidence suggests consumers preferred those waters which had a clear physiological reaction: The most popular spas in the 17th century seemed to be those which offered poisonous tasting, foul smelling, and tinted water (Lencek and Bokser, 1998:60). Ironically, later it was discovered that some of these did indeed turn out to be toxic and quite harmful (Harley, 1990:53). Over time, physicians devised ever more complicated programs in which the use of spa water was used as part of entire spa regimen, which included regular outdoor exercise. It was within these regimes that therapy began to incorporate such subtle methods such as ‘scenic strolls in nature’ that were naturally well received by patients (Soane, 1993). To some degree these techniques benefited from the common perception that both illness and health were jointly matters of mind and body (Porter, 1996). Therefore it was thought that what treatments benefited the mind may well also benefit the body.

Consequently, together with the visitation of royal patronage the amenities of the spa— scenery, food, peace, amusement— eventually became as much part of the cure as were the material effects of the waters (Hamlin, 1990:71). From the 17th century onward, this expansion of entertainment facilities accelerated. Apart from the bathhouse itself, provisions for entertainment at health resorts steadily increased over time, starting with assembly rooms and specialized card, dancing, raffling, and music rooms. Larger investments of coffee-houses, libraries, pleasure gardens also became either commercially viable or were financially supported by local municipalities and royalties (Hembry, 1990:303).

Figure 2: Periods of Spa foundation in Britain, source (Hembry 1990:360)



⁶ Given such rife charlatanism, it is no surprise that by the end of the 17th century, some noted a process of tumultuous change in both the types of treatments and the location of spa resorts themselves (Harley, 1990:51). It seems the structure of this knowledge had a clear commercial implication: A spa resort’s success or failure was sought on the reputation of a ‘unique’ water and an accompanying technique, perhaps led to not only the ‘locking-out’ of competition if the cure proved to be popular, but indeed it also led to the ‘locking-in’ of the spa for complete failure if their cure proved to be unsuccessful.

All in all, between 1558 and 1815 about 173 spas were created, although the picture was at any one time was of shifting patterns of births and deaths (Towner, 1996:62, see also figure 1 above). Generally, the geographical situation was evaluated according to how well it could provide accommodation, utilities such as energy and water supplied as well as transport for visitors and supplies (Towner, 1996). Many rural spas were short-lived and, although successful development depended heavily on actions of entrepreneurs and public authorities. In certain circumstances the clustering of spas occurred since the lack of a reservation system could lead to overcrowding at some locations where surplus consumers would then seek alternatives in the immediate area. Furthermore, certain entrepreneurs sought to reproduce their success at one site in other areas of the same region, which could not be too far away in order for there to be a proper standard of supervision (Hembry, 1990:251).

Table 1: Resort Consumption techniques in the Medieval and Post-Reformation era.

	<i>Medieval era</i>	<i>Post-Reformation era</i>
Input	Spring Water	Spa water
Method:	Bathing, drinking, prayer	Bathing Drinking
Epistemic frame:	Christianity, disease the product of sin	Galenic Philosophy
Consumers:	diseased, pilgrims	Aristocracy
Authority:	Priests, Monks	Physicians

3.2 *The Romantic & Modern era.*

From the late 18th century, the English spa operators faced stiff competition from German spas for upper class customers (Bacon, 1997). Compared to the English, the German spas were run by relatively interventionist municipalities whose introduction of the tourist tax in places like Wiesbaden produced larger funds for infrastructure investment (Soane, 1993). A higher degree of regulation also benefited the hygiene level in the city, whereas in England hygiene was not always a prime consideration. Also, the German spa treatment was less subject to the charlatanism that badly damaged the reputation of the English spa industry by the 1860s (Bacon, 1997:177). German spa practitioners were licensed and educated by the state-fostered universities and medical schools. This enormously enhanced the reputation of spa physicians amongst foreign visitors. Finally, The Germanic municipalities had a tendency to regulate parks, walkways and spa buildings that gave these resorts a relatively homogenous architectural character. They also commissioned classical architects to build spa facilities (Soane, 1993).

At the same time, a new crop of medical theories had emerged which promote the use of seawater rather than spa-water as means of treating sickness. In the 18th century Thalassotherapy (the study of how marine environments affect human physiology) appeared, which not only made use of water but also the sea-breeze. However the manner by which they used these resources was still very much different from how they are consumed by contemporary resort visitors. Notably, consumers would visit the resort during the winter and autumn, when the water was at its the coldest (Towner, 1996:177).

The bather would employ a horse cart and attendant to be taken out to the deeper part of the beach (Lencek and Bokser, 1998:76). There the attendant would repeatedly plunge the bather into the water in rapid fashion until the bather was fully emerged. It was commonly accepted that the act of submergence commonly knocked the bather unconscious after repeated trials. Sir John Floyer noted in 1701-2:

“Cold baths caused a sense of chillness, and that, as well as the *terror* and *surprise*, very much contracts the nervous membrane and tubes, in which the aerial spirits are contained, and they being kept tense and compressed, do most easily communicate, all external expressions to the sensitive soul. Not only the external senses are more lively in cold water, but all our animal actions and reasoning are then more vigorous by the external compressure of cold air. (Lencek and Bokser, 1998:76, own emphasis added).

Later Vincent Pressnitz (1799-1851) promoted cold water to a focal point for a radically new concept in therapeutics (Price, 1981:271). He forbade drugs, urged exercise, providing the coarsest of food and prescribing heroic quantities of cold water internally and externally. Hence cold water drinking was used by consumers to cure everything from constipation to preparing women for the toughness of childbearing (Lencek and Bokser, 1998:76). It was further speculated that the internal organs of humans behaved very much like those of other organisms. If cold water could stiffen and invigorate plant stalks, then, by analogy, it could contract the interior of the human body (Browne, 1990).

Apart from temperature, chemical analysis was also popular because of the rise of chemical analysis. This is evident in Bertrand Russell's writings, which argued that it was salt water that was nature's own best medicine in that it provided a defense against decay and putrefaction. He praised seawater for its heavy traces of iodine, bromine, chloride of sodium and muriate of magnesia- a salt considered particularly beneficial to humans- chloride of potassium, Epsom salt, sulfate of lime and carbonate of lime (Lencek and Bokser, 1998:78). By regulating glandular secretions, seawater was thought to cleanse the system, controlled the rate of internal putrefaction, and invigorated the entire organism.

After 1783, the theories of the French chemist Antoine Avoisier underlined the crucial role of oxygen in maintaining the organism and the nearly simultaneous increase in pulmonary consumption focused anxiety on respiration (Inglis, 2000:15). Oxygen was believed to be active in destroying unwholesome substances and was rumored to be generated in the air by salt water. Scientific investigations of the period demonstrated sea-air to be the purest and most saturated with oxygen, superior even to mountain air (Towner, 1996:169). Thus the sea-air becoming an increasingly popular tool for medical treatment. Physicians instructed patients to breathe deeply in sight of the sea, so that the whole body could be infused with an ethereal antiseptic which would reduce 'morbid humors' to an absolute minimum. Consequently, one way in which the resort location was judged was according to the wind direction and strength and air quality, as well as temperature variations, local birth and death rates (Towner, 1996:201).

This change in paradigm thus not only reflected the utilization of a new set of natural inputs, but an altogether different approach to medical treatment in general. It promoted a general mistrust of orthodox medicine, which fermented when a range of new drugs recently arrived in Britain over which there seemed to be a 'reckless ignorance' of their physiological affect. These included mercury, sulphur, tobacco, tar and acetate of lead, and varied in their toxicity (Price, 1981:270). As a result, this new generation of 'Romantic' medical theories advocated a drugless system of natural therapeutics intended

to tranquilize and stimulate the nervous system (Price, 1981:270). In this era, the general doctrine of the natural healing process was reemphasized (Neuburger, 1943). Because of this reactionary character, Part of this a new paradigm encouraged consumers to trust their own intuition in assessing the effectiveness of medical cures, over the advice of established medical authorities (Price, 1981). Consequently, it introduced the intellectual climate in which it was possible to conclude that the residents of the newly emerging industrial town and cities could greatly benefit from spending short periods away from them, viewing nature (Urry, 1990:20).

Figure 3: The emergence of the British seaside resort, 1750-1911. (Source: Towner 1996).



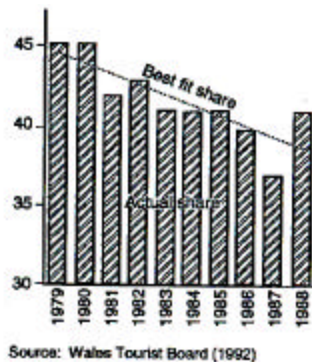
Figure 7.2 The pattern of seaside resort growth in England and Wales, 1750–1911

At the same time, the entertainment aspects of the seaside resort also took on larger dimensions. The seaside resort developed its own distinct types of entertainment attractions rapidly given the relative social informal and geographically unrestricted environs (Urry, 1990). Over time, in the face of increasing competition, other attractions developed through which resorts attempted to distinguish and emulate each other. These included the pleasure pier, a promenading area, and the fairgrounds that were springing up on or next to popular parts of the beach in the larger resorts. The latter were permanent and on a scale which dwarfed the itinerate fairs which visited the inland industrial towns (Walton, 2000:107). Some needed constant re-capitalization and updating, such as Blackpool, Southend, Margate and Southport. Municipalities also built aquaria, winter gardens, which provided glassed-in promenades with potted plants for decorous sociability. Thus, the distinctively ‘seaside’ aspects of these ventures seem to lie in their sheer scale and elaboration, and the exotic exuberance of their architecture and décor which, (in the largest and most popular resorts) were beyond most, if not all, that was on offer in the big industrial towns (Walton, 2000:95).

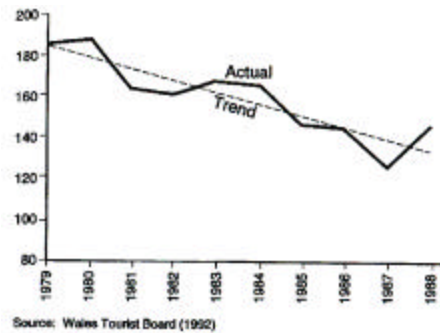
Consequently, at the beginning of the twentieth century the English and Welsh coastlines were uniquely well endowed with seaside resorts. While competitors for well-off British holidaymakers had emerged on the French coasts, there was plenty of growth in demand at working-class and mainstream middle-class levels to sustain continued expansion. Between 1911 and 1931 the seaside resort population grew by about 25% from 1.6 to 2 million, and by the 1950s it was over 50% (Walton, 1997:30). The pattern of resort population growth owed much to the legacy of early development, refracted through the changes of the railway age.

However while British tourism expanded into a massively popular social phenomenon in the 20th century, these destinations have paradoxically decreasingly benefited from this growth (Cooper, 1997). Instead, from the 1960s onwards, British tourists abandoned these resorts in favor of seaside resorts that were mainly located in warmer climates along the Mediterranean. Holidays abroad went up from 1.5 million in 1951 to hover at or just over 5 million during the 60s. These reached 8.5 million in 1972, although afterwards they dipped for several years due to the oil crises. In contrast, between 1978 and 1988, 39 million nights were lost at seaside destinations, representing half of their market for some of the smaller resorts (Cooper, 1997:86). All up, between 1973 and 1987 the proportion of total tourist expenditure spent in the resorts has fallen from about one-half to one-third.

Figure 4: The Decline of British Seaside Resorts, source (Cooper, 1997:85)



Source: Wales Tourist Board (1992)
Figure 4.2 Change in market share of seaside holiday nights (per cent) in Britain



Source: Wales Tourist Board (1992)
Figure 4.1 Total visitor nights (millions) in seaside destinations in Britain

Certainly this change was enabled by the continuing growth of holidays with pay during and after the war, which helped boost the spread of the holiday habit, and made a continuing contribution to the expansion and extension of working class holidays during the period of rising living standards in the 1950s and 60s (Walton, 2000:58). Simultaneously, the war had also laid the technological foundations for mass transport to be utilized for commercial use and hence rising real incomes was met by responsive and creative outbound tourism sector (Cooper, 1997:86). Packaging together flights, accommodation and transfers at competitive prices, the sector quickly achieved scale economies. Also domestically the seaside resort came under sharp pressure from the proliferating adventure and theme parks that offered the same sort of entertainments but closer to cities (Urry, 1990).

However, on a more fundamental level, one must account for the emergence of the consumer taste for sun exposure that laid the foundation for the declining demand for the British seaside resort. Beyond simply holding changes in social norms responsible,

what many commentators have not mentioned is the close relationship this change had with advances in medical theory of the time. In 1877, sunlight was shown to influence bactericidal and fungicidal activity in vitro. Then, in the 1890s the Danish physician Finsen became the father of modern helio- and phototherapy when he reported the successful clinical use of ultraviolet radiation in treating cutaneous tuberculosis. The impact on medicine and science was fundamental in popularizing the idea that sunshine could be used as a cure (Albert and Ostheimer, 2002:932). This was reflected in the fact that Finsen was awarded the Nobel Prize in Medicine in 1903.

Another contributing factor to its popularity was that during the early 1900s, the disease of rickets swept through Europe, which was thought to be caused by vitamin D deficiency. Rickets was common amongst urbanized children, who were subsequently treated with sunlight once the connection between sunlight and vitamin D was made (Albert and Ostheimer, 2002:909). Soon it was further suggested that ultraviolet light increased resistance to the infection including the common cold. This idea gained acceptance after a 1924 report that blood taken from ultraviolet-irradiated rabbits showed an increased ‘bactericidal power’ in vitro (Albert and Ostheimer, 2002:910). These discoveries further supported the belief that ultraviolet light can be perceived as multipurpose antidote to bad health. In 1924 the AMA journal commented:

“Shall it not soon be said in truth that both animals and plants literally can bottle up sunshine for us- as we ourselves may do in helpful measure if only we deign to permit the benevolent rays to find a way without artificial hindrance to our bodies?” (as cited in Albert and Ostheimer, 2002:911).

As a result of these perceptions, exposure to ultraviolet light became a public health goal. Articles appeared in the popular press with titles such as “Meet doctor sunshine”, “Eating sunshine” and “Nature gives us sunlight – lets use it!” (Albert and Ostheimer, 2002:911). Children were encouraged to keep out of the shade and outdoor sunbaths were recommended for infants. Glass was also developed that more efficiently transmitted ultraviolet radiation that was subsequently used in schools, hospitals and hotels. Summer camps were established to treat undernourished children with sunbathing (Albert and Ostheimer, 2002:913). The goal was to promote weight gain as well as improve muscle tone, hemoglobin count, and the excretory function of the skin⁷.

Table 2: Resort consumption techniques in the Romantic and Modern era.

	<i>Romantic era</i>	<i>Modern era</i>
Input	Seawater, sea-air	Sunshine
Method:	Bathing, drinking, breathing	Sunbathing
Epistemic frame:	Romantici philosophy, use treatments that elicit shock & surprise	Heliotherapy
Consumers:	New Middle Class	Mass tourists

⁷ It was only in the 1950s that the corner was turned, and it became common for popular articles relating sun tanning and sunburn to mention the risks of photo aging and skin cancer from excessive sunlight exposure (Albert and Ostheimer, 2002:1098).

Authority:	Chemists, and physicians	Public health authorities
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5. Results & assessment

Resort tourism did not emerge out of any one single learning process – rather it formed incrementally as a result of a series of learning processes through which a number of types of consumption technologies have risen and fallen in popularity. In all three major phases, new bodies of scientific thought played a significant large role in stimulating and directing aggregate consumer demand by providing new explanations concerning how natural inputs can aid the consumer’s well-being and creating techniques based on these theories that could be conveniently used. This essentially supports Menger’s hypothesis about the major impact scientific advances has had on consumer learning processes. During the early spa resort era, Galenic traditions and early pneumatic chemical discoveries made their impact on spa-water cures; later the discovery of oxygen, the physiological theories of Floyer and Priessnitz played a role in the rise of the seaside resort. Finally, the invention of heliotherapy and the discovery of the role that sunshine plays in activating vitamin D in the skin can be cited as influencing the demand for ‘sunny’ resorts in the 20th century. Together, these facts represent convincing evidence of the strong influence scientific thought can have on consumption processes.

Table 3: The evolution of resort consumption techniques

	1500-1750s	1750s-1880s	1880s-Present
Location	Spa Resorts	Seaside Resorts (North)	Seaside Resorts (South)
Basic Inputs	Spring Water	Sea Air, Sea Water	Sunshine
Tools & Techniques	Drinking, bathing, wet-sheet rubs and wrappings	Breathing therapy, Shock bathing	Sun-baking, use of sun lotions
Epistemic Frame	Holism: Waters are Unique, Irreducible, Inimitable	Priessnitz, Oxygen, Chemistry	Heliotherapy, Vitamin D.
Experts	Priests, later Galenic Physicians	Pneumatic Chemists, physicians	Physicians

At the same time, the evidence suggests that degree to which consumers accepted expert advice, which typically appeals to cognitive modes of learning, was tempered by the longstanding biases for certain types of treatments. In terms of the hypotheses conjectured in section 2, this case study provides substantial evidence for the notion that consumers possessed an objective bias for those medical treatments which elicited immediate physiological reactions (Hypothesis 1), and that such a bias influenced the growth trajectory of resorts in that treatments changed to not only reflect latest scientific knowledge but also changed to become more reliable in eliciting immediate physiological reactions (Hypothesis 2). Initially, this bias was linked to the problem that there was no objective basis for comparing the effectiveness of treatments. What appeals were made to

experimentation were likely to be simplistic and relied on the consumer's self-assessment.

For example, Frederick Slare compared waters of two spas by drinking first one and then the other for a week, and then drinking them alternately for 20 days, "the result was so plain and manifest to me that the Pymont water gave me more spirit and strength those days I drank them, than when I used the others,"(Hamlin, 1990:71) While the techniques for scientifically testing the properties and the medical effects of water did improve slowly, there was no guarantee that consumers would trust such tests. For example, since many of its early proponents were unable to account for dissolved gasses in water that were responsible in many cases for the water's taste, texture and odor, the practice of chemically testing a number of spa waters that were offered by resorts actually benefited less scientific treatments since consumers were attracted to those treatments that were perceived as mysterious (Hamlin, 1990:70). Especially intriguing but unexplainable was the observation that, when stored, certain waters lost their special bubbling qualities and went flat.

Therefore it was not coincidental that the most popular spas in medieval Britain seemed to be those which offered poisonous tasting, foul smelling and tinted water. From that early period until the 20th century, every new generation of resorts seemed to offer more effective treatments which could better elicit immediate physiological reaction in consumers. The spa resorts of the post-reformation era developed systemized schema of treatments including various way of using drinking, bathing and rubbing water into patients (Browne, 1990":113). Subsequently, the early era of seaside resorts used bathing carts and the cold water months to elicit shock and surprise in the act of bathing (Lencek and Bokser, 1998:76).

In terms of Hypothesis 3, that the popularity of pleasurable treatments would create the market conditions in which new generations consumers started to visit resorts more for the sake of experiencing pleasure rather than attaining treatments, the evidence is mixed. The entertainment aspect of health resorts became an increasingly prominent aspect for a number of reasons. Firstly, in the Elizabethan era recreational facilities emerged because of the patronage of aristocracy as well as the common perception that illness and health were jointly matters of mind and body. This naturalistic approach to healing reached a climax in the romantic era which encouraged consumers to discover not only a type of morality but also good health through discovering what natural stimuli elicited pleasurable reactions :(Campbell, 1987). From the late 18th century, increased competition from German health resorts also pressured British seaside resorts to devise alternative attractions to appeal to more consumers who were not necessarily in need of medical cures (Bacon, 1997). Thus the manner by which resorts came to have pleasurable characteristics is complex, and there is no clear evidence to what extent the emergence of pleasurable medical treatment contributed to the resort's functional mutation.

From a general perspective, Menger's argument that scientific experts do aid consumer welfare cannot be disputed. One can point to definite improvements in consumer welfare thanks to the progress of science: these bring a greater degree of accountability to the type of treatments that the market can supply. By educating consumers, experts did essentially enable and motivate consumers to demand and utilize more tools and more complex consumption process. However, the case also showed that scientific knowledge characteristically emerges through a trial and error process (Loasby,

2002). When we review most of the treatments used in the history of the resort, it is obvious that some of them caused nothing more than a 'placebo effect'(Grunbaum, 1984). Of these, some became popular despite the fact that they were uncovered to be harmful to health, for example the habit of sun-tanning. At the same time, testing these treatments undoubtedly played an important role in progressing science. Thus in order for science to progress in the first place, there must be a certain willingness on the part of consumers to adopt and trial such new treatments that are shrouded in uncertainty. Without such demand and a certain willingness on the part of the consumer to take risks, new innovations and their corresponding theories would simply fail. This implies that no degree of expert advice and scientific knowledge can completely eradicate the possibility of consumers making mistakes and consuming imaginary goods without simultaneously eradicating the environment in which scientific knowledge itself may emerge. From this perspective, imaginary goods are therefore a temporal but unavoidable byproduct of scientific advance. If such advance is ultimately what drives economic growth, imaginary goods must necessarily remain a feature of consumption in a evolving economy.

6. Conclusion

This paper argues that to properly understand the impact of institutions that promote knowledge generation and diffusion on economic growth, more attention must be given to how these influence and interact with evolving consumption tastes. This relationship we label systems of demand innovation. To this end we have outlined a series of consumer learning processes that together explain the historical emergence of the British demand for holiday resorts. Essentially, it incrementally developed from previous beliefs consumers had concerning the healing power of certain basic inputs found in nature. We suggest that the interaction between expert advice and consumer's non-cognitive acquired wants played a role in the functional mutation of resorts since consumers originally evaluated resort treatments according to the immediate physiological reaction they elicited. From the evidence we do indeed find that resort treatments did indeed increasingly feature methods that elicited immediate physiological reactions. Yet to what extent these played a role in promoting the recreational use of resorts is questionable since there are other social as well as economic factors that were involved in this change. In terms of welfare effects, the case study does provide evidence that such advance does improve consumer welfare in the long run. However in order for science to advance in the first place, there must be a certain willingness on the part of some consumers to trial new treatments that are shrouded in uncertainty. From this perspective, imaginary goods are a temporal but unavoidable byproduct of the scientific advance.

Reference List

Abramovitz M (1986). Catching up, forging ahead and falling behind. *Journal of Economic History* 46: 385-406

Ainslie G (2003). Uncertainty as wealth. *Behavioral Processes* 64 (3): 369-385

- Akerlof G (1980). A theory of social custom, of which unemployment may be one Consequence. *Quarterly Journal of Economics* 94:749-775
- Albert M, Ostheimer K (2002). The evolution of current medical and popular attitudes toward ultraviolet light exposure: Part 1. *Journal of American Academic Dermatology* 47 (6): 930-937.
- Anderson J (2000). *Learning and Memory*. John Wiley & Sons Inc: New York
- Bacon W (1997). The rise of the German and the demise of the English spa industry: a critical analysis of business success and failure. *Leisure Studies* 16:173-187
- Bandura A (1986). *Social foundations of thought and action- a social cognitive theory*. Prentice Hall: Englewood Cliffs
- Banerjee A (1993). The economics of rumors. *Review of Economic Studies* 309-328
- Bauer M (1995). *Resistance to new technology*. Cambridge University Press: Cambridge
- Bianchi M (2002). Novelty, preferences, and fashion: When new goods are unsettling. *Journal of Economic Behavior and Organization*, 47:1-18
- Bikhchandani S, Hirshleifer D, Welch I (1992). A theory of fads, fashion, custom, and cultural change as informational cascades. *Journal of Political Economy* 100 (5): 992-1026
- British Resort Association (1989). *Perspective on the future of resorts*. London: British Resort Association.
- Browne J (1990) Spas and sensibilities: Darwin at Malvern. In Ed Porter R, *The medical history of waters and spas*. pp. 102-113. Wellcome Institute for the History of Medicine: London
- Bukart, A. J. and Medlik, S. (1992). *Historical Development of Tourism*. France: Centre Des hautes Etudes Touristiques
- Bürnstorf G (2003) Designing clunkers: demand-side innovation and the early history of the mountain bike. In Metcalfe S, Cantner U (eds), *Change, transformation and Development*. pp. 53-70. Physica: Heidelberg
- Campbell C (1987). *The romantic ethic and the spirit of modern consumerism*. Blackwell: Oxford

- Cooper C (1997) Parameter and indicators of the decline of the British seaside resort: cultural and economic perspectives. In Shaw G, Williams A, The rise and fall of British coastal resorts. pp. 79-101. Mansell: London
- Conlisk J (1980). Costly optimizers versus cheap imitators. *Journal of Economic Behaviour and Organization*, 1:275-293
- Cowan R, Cowan W, Swann P (1997). A model of demand with interactions among consumers. *International Journal of Industrial Organization* 15:711-732
- Damasio A (2003). *Looking for Spinoza: Joy, sorrow, and the feeling brain*. William Heinemann: London
- Dingle A (1972). Drink and working-class Living standards in Britain, 1870-1914. *Economic History Review* 25 (4): 608-622
- Earl P (1986). *Lifestyle economics: Consumer behavior in a turbulent world*. Wheatsheaf Books: Sussex
- Earl P (2001). Simon's travel theorem and the demand for live music. *Journal of Economic Psychology* 22 (3): 335-338.
- Earl P, Potts J (2004). The market for preferences. *Cambridge Journal of Economics* 28:619-633
- Frank R (1988). *Passions Within Reason*. W. W. Norton & Company: New York
- Frantz R (2003). Herbert Simon: Artificial Intelligence as a Framework for Understanding Intuition. *Journal of Economic Psychology* 24:265-277
- Foss N, Lorenzen M (2004) Analogy and the emergence of focal points: Some suggestions for bringing cognitive coordination into the theory of economic organization. In Ed Nielson K, *Uncertainty in Economic Decision-Making: Ambiguity, Mental Models and Institutions*. Edward Elgar: Cheltenham
- Freeman C (2002). Continental, national and sub-national innovation systems-complementarity and economic growth. *Research Policy* 31: 191-211.
- Hamlin C (1990) Chemistry, medicine and the legitimization of English spas, 1740-1840. In Ed Porter R, *The medical history of waters and spas*. pp. 67-81. Wellcome Institute for the History of Medicine: London.

Harley D (1990) A sword in a madman's hand: Professional opposition to popular consumption in the waters literature of Southern England and the Midlands 1570-1870. In Ed Porter R, *The Medical History of Waters and Spas*. pp. 48-55. Wellcome Institute for the History of Medicine: London.

Hayek FA (1937). *Economics and knowledge*. *Economica* 4:33-54.

Hembry P (1990). *The English spa: 1560-1815*. The Athlone Press: London.

Galbraith JK (1958). *The Affluent Society*. Houghton Mifflin Company: Boston

Gigerenzer.G. (1996). On Narrow Norms and Vague Heuristics: A Rebuttal o Kahneman and Tversky. *Psychological Review* 103 (3): 592-596

Grunbaum A (1984) Explication and Implication of the Placebo Concept. In Ed Andersson G, *Rationality in Science and Politics*. pp. 131-158. Dodrecht: Boston and Lancaster .

Hayek FA (1960). *the Constitution of Liberty*. Routledge: London

Inglis, F (2000). *The history of holidays*. Routledge: London.

Jeppsen L,Molin M (2003). Consumers as Co-developers: Learning and innovation outside the firm. Working Paper Series, Department of Industrial Economics & Strategy, Copenhagen Business School 03-1 (

Kahneman D, Slovic P, Tversky A (1982). *Judgement under uncertainty: Heuristics and biases*. Cambridge University Press: Cambridge

Katz M,Shapiro C (1985). Network Externalities, Competition and Compatibility. *American Economic Review* 75 (424-440

Kalat J (1998). *Biological psychology*. Brooks/Cole Publishing Company: Pacific Grove, Albany.

Khalil E (2003). The context problematic, behavioral economics and the transactional view. *Journal of Economic Methodology* 10 (2): 107-130

Lancaster K (1966). Change and innovation in the technology of consumption. *American Economic Review* 56:14-23.

- Langlois R, Cosgel M (1998) The organization of consumption. In Ed Bianchi M, The active consumer. pp. 107-121.
- LeDoux J (1996). The Emotional Brain. Simon & Schuster: New York
- Lencek L, Bokser G (1998). The beach: the history of paradise on earth. Secker & Warburg: London.
- Lickorish LJ, Kershaw OJ (1975) Tourism between 1840 and 1940. In Burkart A, Medlik S, The management of tourism. pp. 11-26. Heinemann: London.
- Loasby B (2000). The division and organisation of knowledge. European Journal of Economic and Social systems 14 (2): 143-155.
- Loewenstein G, Lerner J (2002) The role of emotion in decision making. In Davidson R, Goldsmith H, Scherer K, The Handbook of Affective Science. Oxford University Press: Oxford .
- Lundvall B, Johnson B (1994). The learning economy. Journal of Industry Studies 2): 23-42
- Menger C (1950). Principles of economics. The Free Press: Glencoe, Illinois.
- Mokyr J (2000). Why 'more work for mother?' Knowledge and household behavior, 1870-1945. Journal of Economic History 60:1-41
- Mokyr J (2002). Gifts of Athena. Princeton University Press: Princeton and Oxford
- Morlacchi P.(2004 ¶) How do technologies come into being? The role and dynamics of legitimation. 2004. Presented at the International J. A. Schumpeter Society 10th Conference at the University of Bocconi, Milan.
- Nelson P (1970). Information and Consumer Behavior. Journal of Political Economy 78 (311): 329
- Nelson R. R., Winter SG (1982). An Evolutionary Theory of Economic Change. Belknap Press of Harvard University Press: Cambridge, MA
- Oddy D (1970). Working-Class Diets in Late Nineteenth-Century Britain. The Economic History Review 23 (2): 314-323
- Parrinello, G. L. (1993). Motivation and anticipation in post-industrial tourism. Annals of Tourism Research 20:233-249.

- Porter R (1996) What is disease? In Ed Porter R, Cambridge Illustrated History of Medicine. Cambridge University Press: Cambridge.
- Price R (1981). Hydropathy in England 1840-70. *Medical History* 25: 269-280.
- Richerson P, Boyd R (2004). *Not By Genes Alone*. University of Chicago Press: Chicago
- Rogers EM (1962). *The Diffusion of New Innovations*. The Free Press: New York
- Rosen S (1981). The Economics of Superstars. *American Economic Review* 71 (845-858
- Routh H, Bhowmik K, Parish L, Witkowski J (1996). Balneology, mineral water, and Spas in historical perspective. *Clinics in Dermatology* 14: 551-554.
- Ruprecht W.(2002 ¶) *Towards an evolutionary theory of consumption*. 2002. Dissertation completed at the Evolutionary Economics Unit, Max Planck Institute for Research into Economic Systems, Jena Germany.
- Saviotti P (1996). *Technological evolution, variety and the economy*. Edward Elgar: Cheltenham.
- Schumpeter JA (1934). *Theory of economic development*. Harvard University Press: Cambridge, MA.
- Scitovsky T (1976). *The joyless economy*. Oxford University Press: Oxford.
- Skinner BF (1953). *Science and human behavior*. the Free Press: New York.
- Simon HA (1978). Rationality as Process and as Product of Thought. *American Economic Review* 68 (2): 1-16
- Smith, A. (1976). *The theory of moral sentiments*. Indianapolis: Liberty Classics.
- Soane J (1993). *Fashionable resort regions: Their evolution and transformation*. Cab International: UK.
- Stigler G, Becker G (1977). De gustibus non est disputandum. *American Economic Review* 67:76-90.

- Stroper M (1997). *The Regional World*. The Guildford Press: New York
- Talbot M.(2000 ¶) The Placebo prescription. *New York Times Magazine* January 9, 2000. Ref Type: Newspaper.
- Towner J (1996). *A historical Geography of recreation and tourism in the Western World 1514-1940*. John Wiley & Sons: West Sussex, England.
- Turner L, Ash J (1975). *The golden hordes*. Constable and Company: London.
- Urry J (1990). *The tourist gaze: Leisure and travel in contemporary societies*. Sage Publications: London.
- van den Ende J, Dolfsma W (2005). Technology-push, demand-pull and the shaping of technological paradigms. *Journal of Evolutionary Economics* 15:83-99
- Walton J (1997) The seaside resorts of England and Wales, 1900-1950: Growth, diffusion and the emergence of new forms of coastal tourism. In Shaw G, Williams A, *The rise and fall of British Coastal resorts: Cultural and economic perspectives*. pp. 21-48. Wellington House: London.
- Walton J (2000). *The British seaside: Holidays and resorts in the twentieth century*. Manchester University Press: Manchester.
- Walton J (1981). The demand for working-class seaside holidays in Victorian England. *The Economic History Review* 34 (2): 249-265.
- Witt U (2001b). Learning to consume: A theory of wants and the growth of demand. *Journal of Evolutionary Economics* 11:23-36.
- Witt, U. (2001a) Institutions, social cognitive learning, and "group selection". Paper prepared for the Workshop "Nature and Evolution of Institutions" held at the Max Planck Institute for Research into Economic Systems, Jena, Germany.
- Witt U.(2004 ¶) A (partial) rehabilitation of 'objective' utilitarianism and its implications for assessing the Growth of Consumption. Paper prepared for the 2004 Society for the Advancement of Behavioral Economics conference in Drexel University, Philadelphia.