

# THE ROLE OF SENSES AND SIGNS IN THE ECONOMY

## More on the centrality of materiality

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*Since some years back a number of scholars have argued that the analysis in social science, including the analysis of economic life, needs to take materiality into account. In this article, the author suggests that one way to do push the debate about materiality one step further would be to look at the role of the senses in mediating between outside materiality and the inside reality of the actor. Drawing on Georg Simmel's essay The Sociology of the Senses the author suggests how we may look at the senses from a sociological perspective; this article also discusses what an economic sociology of the senses might look like. In order to show the mechanism by which the senses operate when they mediate between outside materiality and inside reality, the author draws on the sign theory of philosopher Charles Peirce. The signs, and what they refer to, come together in the mind of the subject, Peirce argues. They also impact the subject, rather than the other way around.*

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Since some years back a number of scholars have argued that the analysis in social science, including the analysis of economic life, needs to take materiality into account (e.g. Latour 1999, 2005; Miller 2005). The vision of social science as being exclusively focused on culture, in the form of symbols and meanings, or on social structure, in the form of social relations and social networks, has been judged too narrow by a number of analysts. The social science analysis of the economy should be extra sensitive to this type of argument, since it is centered on something very material: the production, distribution and consumption of goods. In an article from 2009 entitled 'The Centrality of Materiality: Economic Theorizing from Xenophon to Home Economics and Beyond', I argued that economic theory had become increasingly abstract and uninterested in materiality during the course of its development (Swedberg 2009). What had started out as a solid and material type of analysis had by the twentieth century become a de-materialized and pure type of theory. This development I argued has impoverished economic analysis and made it ignore a number of important issues.

In this article I will try to address some other issues that arise from the attempt to introduce materiality into economic analysis. Being a sociologist, my main concern will be economic sociology, but I will try to keep the argument general enough so that it can have a wider application.

What I propose to analyze is how to overcome the disjunction between material objects and mental life or between objects and subjects. While both of these clearly merit

a place in the analysis, they also seem hard to unite in one and the same analysis, without doing so at the expense of the other. We do not want a purely materialistic analysis of the economy, nor one in which the mental perspective totally dominates. Is it possible to establish some kind of bridge between the two that would allow a two-way traffic to flow between the material and the mental?

One such possible bridge, I suggest, is the notion of *the senses* – the five senses of human beings: touch, taste, sight, smell and hearing.<sup>1</sup> The basic idea would be that the senses mediate between the outer material world and the inner mental world (e.g. Hsu 2008). The senses are also interesting in this context in that they allow us to get away from an overly cognitive type of analysis, centered around the mental construction of reality. While the senses are linked to the mind or the brain, they are also (and first) linked to other organs of the human body.

For a sociologist it is natural to approach the topic of the senses by taking a close look at Georg Simmel's essay 'The sociology of the senses' (1997 [1907]). This is a short and fragmentary text, but it is very suggestive and it directly addresses the issue of the role of the senses in sociological analysis.<sup>2</sup> While famous and often praised, 'The sociology of the senses' has inspired little interesting commentary and follow-ups (e.g. Synnott 1993, p. 128).

Simmel starts out by noting that in a science like biology, scientists began by analyzing individual organs such as the stomach, the lungs and so on. Once this had been done, the focus shifted to the micro-level and the cell, which could be researched with the help of the microscope. This is where the real progress was made and the secrets of life unlocked. Similarly in sociology, Simmel goes on, it is time to shift away from just analyzing large social structures, such as the state, the church and the family, and to focus on the micro-level, where the real secrets of social life are to be found.

While it is typically assumed in sociology that people make use of their senses, Simmel says, their impact is given little thought and typically seen as uniform. This, however, is wrong since each sense has its very own way of influencing social interaction. The eye allows us to connect with somebody else in many different ways; and a quick, direct link is, for example, created between two people when they look at each other. Sound, in contrast, is not reciprocated; and the ear, as opposed to the eye, cannot open and close. Neither can it be directed as one wants.

Simmel refers to smell as one of the lower senses and notes that its impact is often unconscious. But one can also draw attention to smell, in an attempt to set oneself at the center of attention. 'Perfume', Simmel writes, 'does exactly for the nose what jewelry does for the eye . . . it enlarges the sphere of the individual just as the glitter of gold and jewels' (Simmel 1992 [1908], p. 736).

When we smell something, we draw air into our bodies; and this accounts for the very special type of intimacy that we associate with this sense. Smell can repel as well as attract. It blocks interaction so often that Simmel labels its effect 'disassociating' (Simmel 1997 [1907], p. 119). He does not comment on the remaining two senses, taste and touch.

Simmel ends his article on the sociology of the senses by noting that that the senses have changed over the course of history. People used to have sharper senses and were especially able to experience more at a distance. Today this capacity is lost. On the other hand, the sensitivity of the senses of modern people have increased at a short distance; and Simmel illustrates this statement by referring to the concern in his days with hygiene

and cleanliness. Modern people are becoming 'not only short-sighted but also short-sensed' (Simmel 1997 [1907], p. 119).

Throughout his essay, Simmel uses examples from economic life; and since the economy is also the focus of this paper, what he has to say on this topic is of special interest. The argument that sociology is now ready to move from looking at large social structures to small ones, is for example illustrated with examples from the economy. By moving to the micro-level, we conclude, one may be able to find out what really animates economic life.

One way to go about this, to repeat, is by introducing the senses into the analysis. The understanding of economic life will this way become much more subtle and complex. One can, for example, also go beyond an interest-oriented type of analysis. In economic life, as elsewhere in society, people do certain things simply because their social interaction is structured in a certain way by their senses.

Simmel writes, for example, very elegantly about the impact that the sense of sight has on the masses of workers. By being in a factory, and seeing other workers without necessarily being able to talk to them, individual workers come to feel that they are part of the general and abstract category 'workers'. In Simmel's formulation:

The workers in a factory workshop . . . somehow feel themselves to be a unity. And even if their unity springs from supernatural factors, its character is still partially determined by the fact its essential sense is the eye, that the individuals see each other during the communalizing processes but cannot speak. In this case, the consciousness of unity will have a much more abstract character than if the association also includes spoken communication. (Simmel 1997 [1907], p. 117)

In discussing the sense of smell, Simmel emphasizes its asocial character or rather, how it succeeds in establishing boundaries between people. Workers and middleclass people often do not get along; and one reason for this is the unconscious impact that the smell of manual workers has on the sensitive noses of the middle class. The so-called social question, Simmel jokes, is also a nasal question (*eine Nasenfrage*; Simmel 1997 [1907], p. 117).

### **An Economic Sociology of the Senses?**

Simmel's discussion of economic topics in 'The sociology of the senses' is inspiring, especially his argument that the analysis of economic life would come alive if proper attention were paid to the senses. One can read his argument on this point as an important suggestion for how economic sociology (or economic analysis more generally) may want to proceed. Exactly where we would end up if we tried to develop an economic sociology of the senses, is not obvious. And it is precisely this quality, of course, that makes it interesting to pursue Simmel's ideas.

If we agree that it would may make sense from a theoretical perspective to include the senses in the analysis of the economy, what about their practical economic role? Do the senses play a central or a peripheral role in the modern profit-oriented economy? While it is hard to provide exact figures, it is clear that several of the major industries in today's economy produce merchandise that directly appeal to one or several of the senses. The television and the movie industries, for example, are oriented to the senses of sight and sound. The music industry is oriented exclusively to the ear, while the

production of eyeglasses and the optics industry focus on the eye. The food, beverage and restaurant industries all involve smell, taste and sight. Perfumes and products such as deodorants and air fresheners are mainly oriented to the nose. Touch is a complex sense, involving the skin and the hand, and plays an important role in the furniture industry and the clothing industry. Many other industries are also directly oriented to the senses of the consumers.

The idea that one can increase sales by consciously targeting the senses seems to have emerged in the United States in the 1930s (e.g. Smith 2007, p. 127; Gilbert 2008, p. 171). Around this time that it was, for example, realized that one could 'sell by smell'. According to a trade journal for supermarkets in 1938, 'there are only five ways in which a consumer can possibly be responsive to any selling appeal, namely through the senses of seeing, hearing, touching, tasting and smelling' (Smith 2007, p. 127). At around the same time one could read in *The Management Review* that 'the odor engineer is joining the color engineer as a consultant to the sales manager' (Gilbert 2008, p. 171).

But even if ideas of this type were around well before World War Two, it was after the war that the consumer revolution really took off in the United States and that the notion of selling by appealing to the senses was put into practise on a mass scale (e.g. Smith 2007, pp. 126–128). One area where this happened was in the supermarkets. The light in the stores was now changed to create the illusion of daylight. White was used in order to create an atmosphere of cleanliness. But many other colors were also introduced, especially to offset the monotony associated with the Depression and the war years. Since middle-class people want silence, silent cash registers and sound-absorbing floors and ceilings were introduced. And while customers had earlier not been allowed to handle fruits and vegetables, they were now allowed to do so since it was hoped that smelling, touching and squeezing the produce would increase sales.

Since a few years back some marketing experts have also been suggesting that an effective way to counter the inefficiency of ordinary advertisements, would be to appeal to all of the senses of the buyers. One advocate of this approach, marketing star Martin Lindstrom, has taken the idea of what is called sensory branding to new heights through several international bestsellers (e.g. Lindstrom 2005, 2008). As part of the new science of *buy-ology*, Lindstrom has also helped to pioneer the use of neuroscience in marketing. If you want to find out what people 'really' feel about some merchandise, he argues, you cannot rely on the old-fashioned methods of focus groups and questionnaires. Instead you need to directly measure the activity of the brain through neuroimaging. People may think that they like/dislike something, but the activity in their brains will tell the real truth.

### **The Individual Senses and the Economy: *Sight – Sound – Smell – Taste – Touch***

The focus on the senses in the analysis of economic life raises a series of interesting theoretical questions, but before addressing these, I want to show that by talking about the senses one is able to draw attention to novel and interesting topics in economic sociology. A quick review of some examples, each involving one of the five senses, will hopefully show this.

Let us begin with *the sense of sight* and use light as the main example. Gas light started to be used around 1800 in factories in the industrial districts of England (Schivelbusch 1995). It was introduced at about the same time as the railroad and it

had an equally important impact on the economy. Some time after it had become an integral part of the factories, gas light also began to be used in the cities and in individual homes.

But there were also some important drawbacks to gas light. It was very dirty; it sucked oxygen out of the room; and it had such an unpleasant and harsh brightness to it that it was never used in the living rooms of the bourgeoisie. The burning of gas also affected the temperature in the room and made it very uncomfortable. Visitors to the theatre complained of headaches and other discomforts that came with being a few hours in a room where the temperature could oscillate between 60 and 100 degrees Fahrenheit. How the workers, who had to work the whole day in the factories, reacted to these discomforts is not known.

All these negative aspects of gas light made electrical light a welcome replacement in the late 1800s. As opposed to gas, electricity could not explode; and it was initially also seen as having a number of positive medical qualities. Electrical light lit up factories and offices, it also made shop windows and department stores more inviting and exciting.

But electrical light also has some negative sides. While gas light was difficult to put up with because it was 'dazzlingly white', electrical light has 'a hard, disembodied, abstract quality' (Schivelbusch 1995, pp. 40, 178). As the kind of physical tiredness, which comes with manual labor, started to be replaced by the mental tiredness, which comes with non-manual labor, complaints about the tiring effects of electrical light began to be heard (compare Lilleaas & Widerberg 2001).

Next to sight, *the sense of sound* is historically the most privileged. There exists much knowledge and research about what appeals to the human ear; and this also goes for the economic dimension of sound. Psychologists, for example, have looked at the subliminal impact that music has on people choosing what wine to buy. Over a two-week period, French and German music was played alternatively in the liquor section in a supermarket in England (North *et al.* 1999). The result was that French wines was outselling German wine on days when French music was played and *vice versa*. Questionnaires also showed that the customers were unaware of what type of music was being played.

The examples can easily be multiplied. Buyers of cars want their automobiles to sound good; and that does not only mean the motor but also the way that a car door sounds when it is closed. The sound should be vaultlike and not tinny (e.g. Lindstrom 2008, pp. 56–59). Attempts to make people associate a special sound with a special brand are also common ('sensory branding'). Kellogg's, for example, has invested much money into creating its very own crunch-sound. Similarly, the opening of Pringles is accompanied by a sound that people associate with freshness. Jingles are also a kind of branding. Most Americans can identify the jingle of Alka-Selzer: '*plop, plop, fizz, fizz – oh, what a relief it is!*'

The history of commercial music of the type that one can hear in elevators, department stores, airports and so on, is closely related to the history of Muzak LLC (Owen 2006; Lanza 2004). This firm was created by Army Officer George Owen Squier, the brilliant inventor of an early form of transmitting music directly into people's homes. The commercial exploitation of this idea took place in the 1930s; and inspired by the popular name of Kodak, Squier decided to call his radio box Muzak.

The main type of music produced by Squier's company was very bland and without lyrics. It was thought that if this type of music was played in cycles of 15 minutes, it would have a subliminal impact on people and increase their productivity. While no scientific support has ever been found for this idea (known as 'Status Progression'), it seemed

intuitively right to many people; and this type of music was as a result popular for decades.

By the 1980s the type of music that was associated with Muzak had begun to go counter to musical tastes, especially those of young people. This forced a change of strategy; and Muzak now switched from providing bland background music to music that was selected to fit the image of specific companies. At Armani, for example, the music is chosen to make customers feel hip, chic and cool; while at Ann Taylor, customers want to feel uplifting and positive. Muzak has also recently started to cooperate with a company that specializes in smell, called Scent-Air Technologies. According to the CEO of Scent-Air, 'We're Muzak for your nose' (Gilbert 2008, pp. 175–176).

Finally, as economic forms of life die away, so do the sounds that accompany them. With the help of modern technology these sounds can be recorded and rescued; and there exist today collections of sounds that have become or are about to become extinct. One such collection in Sweden contains more than 10,000 sounds, including the sounds that accompany old ways of doing the laundry, milking cows manually and sawing blocks of ice (Bremertz 2008). The Smithsonian in Washington DC has an enormous collection of sounds, some of which are available for sale on records. It is, for example, possible to buy a record called 'Sounds of the Office', which contains all the sounds that an office worker in 1964 would hear – such as an adding machine, an electric typewriter, the shuffling of papers and so on.

Because of the centrality of food in human life, *the sense of taste* has attracted much attention and also been much researched (Khatchadourian 2009). The food of our ancestors had a relatively small number of flavours. In ancient Greece and Rome people used only a few spices and were not familiar with such modern staples as coffee, tea, chocolate, tomatoes and lemons. These latter did not enter the West until there was trade with Asia and the Americas.

Pharmacists began early on to add flavour to medicine; and chemists would some time later radically change the way that food was flavoured. During the 1800s chemists discovered the capacity to artificially develop a number of tastes, including vanilla (from vanillin) which today is the most popular flavour in the United States (compare Rain 2004). Much of the food that is consumed today contains artificial flavour. 'The consumption of food flavouring may stand out as one of the modern era's most profound collective acts of submission to illusion' (Khatchadourian 2009, p. 87).

The people who engineer the tastes in the flavouring industry are called flavorists and are often members of the Society of Flavor Chemists. According to flavorists, people tend to be very conservative in their tastes. They are familiar with certain tastes and besides vanilla, citrus flavours are particularly appreciated. There also exist what is known as white spaces in people's tastes or flavours that people probably would like, if they only could be made to try a new flavour. The taste of Coca-Cola is a well-known example of this. Another is that of Red Bull, an energy drink with a sweetly, medicine-like taste. Its so-called unbalanced taste has become so popular that all energy drinks today must have a similar taste.

*The sense of smell* often interacts closely with the other senses. This phenomenon is common for all of the senses. While people, for example, perceive taste to be located to the mouth, it is more complex than so. It has been shown through blind tests, that coffee without its aroma is experienced as a hot drink with a bitter aftertaste; and Coca Cola as a fizzy and sugary drink.

Another colorful example of sensory interaction involves Apple. In 1998 this company broke the convention that a computer should be beige and introduced a new type of PC, the iMac, that was candy-colored and egg-shaped. The form of the iMac was that of a gum drop, and its colors had according to the company been inspired by the color of candy. Steve Jobs said that he wanted people to 'lick them' (Lindstrom 2008, p. 155; compare Dusselier 2001).

When smell is used for commercial purposes, the idea is often that its impact should be unconscious and make people consume more. It is common that fast food chains pump the smell of bacon and hamburgers into their restaurants; and this smell comes from a laboratory and not the kitchen. Some supermarkets make their sections with bread smell like a bakery. New cars are habitually sprayed so they will smell like 'a new car'. Modern Bentleys, where the inside is made of synthetic materials, are for example made to smell like the old models, which used traditional leather and fine woods for decoration.

A good odor engineer can easily deceive the human nose. Add to this a marketing expert and you are in the modern world. Consumers expect, for example, freeze-dried coffee to smell like coffee. Since it does not do this by itself, some assistance is needed. When you open a jar of Nescafé, a nice, chemically-produced whiff of coffee is immediately released.

People in different countries have different smells that they respond favorably to. Indians, for example, like the smell of sandalwood. Also different generations have different smell preferences. People born before 1930 in the United States like the smell of freshly mown grass and that of horses, while people born after 1930 respond favorably to Play-Doh and Spicy Tarts (Lindstrom 2008, p. 147).

The fifth and last sense – *the sense of touch* – is generally considered by scholars as having the lowest status; and it was regarded by Aristotle as being one of the two animal senses (the other is taste). Touch is the sense that we have the least historical information about; and while there exist museums for all the other senses, such as museums of sound and taste, there is (so far) no museum of touch.

The sense of touch is in some ways more complex than the other senses. While each of these are identified with a special organ – sound, with the ear; sight, with the eye; taste, with the mouth; and smell, with the nose – it is not so clear what organ answers to touch. Usually the hand is mentioned, but one could also mention the skin, which is wrapped around the whole body and able to register an amazing amount of phenomena, such as pain, heat, pressure, tingling, caresses and so on. The skin does not only hold nerve endings but also hair follicles, sweat glands, blood vessels and lymph vessels. And it ages, during the course of which it develops wrinkles – which has led to an industry of its own (e.g. Thurman 2010).

While touch has a biological dimension, it also has a social one as the term 'untouchable' reminds us of. Touch plays a role when people shop for clothes as well as for a car. The Coca-Cola bottle has a special tactile message for the hand; and so do many of the specially designed objects that we surround us with, from slippers to whatever it is that makes our own bed so nice to creep down in after a trip abroad.

In *The Invention of Comfort: Sensibility & Design in Early Modern Britain & Early America*, John Crowley traces the emergence of a phenomenon that involves touch and its commercialization (Crowley 2001). During the eighteenth century the word *comfort* was becoming increasingly used in England and the United States, he also notes. It complemented the two earlier categories of luxury and necessities; and just as the former

was linked to the upper classes and the latter to the lower classes, comfort was linked to the middle classes.

One of the first works that attempts to theorize the love for comfort among the middle classes is *Democracy in America* by Tocqueville. He argues that comfort was part of the general transition from an aristocratic and elite oriented kind of society to a new, democratic and mass-oriented one:

[In a democracy] it is not a question of building vast palaces, of vanquishing and outwitting nature, of depleting the universe in order better to satiate the passions of a man; it is about adding a few toises [feet] to one's field, planting an orchard, enlarging a residence, making life easier and more comfortable at each instant, preventing inconvenience, and satisfying the least needs without effort and almost without cost. (Tocqueville 2000, p. 509)

But Tocqueville also felt that there was a dark side to the Americans' love for comfort and material objects in the early 1800s. It threatened to slowly undo their concern with the important things in life. 'These objects are small, but the soul clings to them: it considers them every day and from very close; in the end they hide the rest of the world from it, and they sometimes come to place themselves between it and God' (Tocqueville 2000, p. 509).

### Going One Step Further

It would be possible to stop at this point and argue that looking at the senses allows us to move ahead a few steps in reintroducing materiality into the analysis of the economy. The five senses bring human beings into direct contact with material reality, each in their own distinct manner. This makes it important for economic analysis to know more about the senses and how they operate. Industries that cater to the senses also bring in billions of dollars in revenue each year.

So far so good. But there is also the fact that the senses are not just some kind of mute biological openings to the outside world that channel impressions into our minds, changing these along predictable lines in the process. From the examples in the preceding section, it is clear that something non-biological and social is also involved. Wine used at the celebration of the Eucharist – sacramental or altar wine – tastes different from wine at dinner. When we open a package with Pringles potato chips and hear a sound of freshness, the ear has deliberately been deceived – by someone who wants to sell us something.

While the senses do put us into contact with material reality in a direct way, society is also involved. And it is precisely this that needs to be theorized; and why we cannot stop after having discussed the senses. We need to push on and try to account for the way that the social intervenes in the 'biological' structure of the senses and forms our experiences.

But exactly how is this to be done? The standard answer to this question in mainstream sociology can be summarized in one formula: the social construction of reality. From this perspective, there is not much of a problem. The actor interprets what his or her senses tell him; and the reason for this is that reality can only be perceived in a social manner. Human beings are social beings; they view the world in a social way – what else can they do?

From this perspective, all social construction comes from inside the actor's mind. This means that the senses interpret something as social because we as actors assign a



meaning to what we experience through our senses. The whole thing is not so different from the way that we physically see things: we look out at the world, as it were, *through* our eyes. Meaning is assigned by the actor to the object; and the object is in this sense the creation of the actor.

This type of idea goes far back in sociology and were given an influential and popular expression in *The Social Construction of Reality* by Peter Berger and Thomas Luckmann (Berger & Luckmann 1967). With a bit of exaggeration one can say that this work popularized the Kantian and Weberian model of sociology. The actors construct the world (Kant) and they do so collectively (Weber). The individual actor views the world through the categories that have been created collectively and is not able to see or reach 'reality-in-itself'. Objects are part of this reality-in-itself and are interpreted according to the social categories that actors have been socialized into, and which they project onto the objects.

Given the many important works that have been produced from this perspective, from Weber and onwards, one can say that viewing things from this perspective has been very fruitful. But since the Kantian-Weberian model of sociology also has problems with material objects, which it essentially views as the passive products of social constructions and part of the unknowable reality-in-itself, it is not helpful when one is trying to introduce materiality into social thought.

One does better in this situation to use the ideas that have been developed by Bruno Latour and people working along similar lines. These scholars are well aware of the difficulties that come with approaching reality from a Kantian-Weberian perspective and how this makes it hard to deal with material objects since these are essentially understood as the products of the actor's mind. According to Latour, 'Kant . . . invented a form of constructivism in which the mind-in-the-vat built everything by itself' (Latour 1999, p. 6). Sociologists, Latour continues, essentially took over the Kantian analysis, adding a new set of categories to the mind: those of the social (e.g. Latour 1999, p. 7).

The response by Latour to the Kantian-Weberian perspective has been to develop an alternative theory, according to which objects and actors coexist with each other and influence as well as interact with each other. The key argument is that the social scientist must extend the analysis to *both* actors *and* objects, and that these two mix with each other in various ways that need to be theorized in new ways.

What Latour *et al.* have *not* been able to do, however, is to come up with an epistemology to replace that of Kant. This is a very difficult task; and Latour, Callon and others have made little progress with this problem. While they are aware of the problem, they have not been able to propose an alternative epistemology.

There does, however, exist a very interesting and original approach to precisely this type of problematic, which has not been part of the discussion of materiality but which deserves a hearing. This is the work by philosopher Charles Peirce (1839–1914). Peirce is generally seen as the foremost American philosopher, and especially his theory of signs is of interest in the context of this paper (e.g. Peirce 1991, 1992–1998).

In the next few pages I will present Peirce's ideas and try to show how they can be used to advance the analysis of materiality beyond the point to which Latour *et al.* have taken it. Peirce's theory of signs, I will argue, is helpful in a number of ways; and the place to start is with Peirce's definition of a sign.

A sign, according to Peirce, is something that determines something else – its so-called interpretant – to refer to an object. An interpretant is the receiving mind, so to

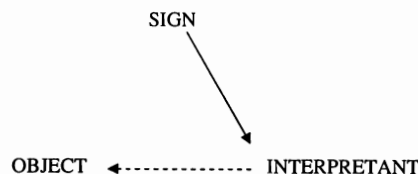
speak; and the three parts of the sign are: (1) the sign itself, (2) its object, and (3) its interpretant. A figure may be helpful to illustrate Peirce's view (see Figure 1).

What the figure shows is how someone looking at, say, a flower, perceives it as a sign – the sign in this case being the concept of what we term 'flower'. The key point here is that while the person thinks that he or she sees a flower, in reality he or she is seeing something else, and this something is interpreted as a 'flower'. To the individual, the transition of some patterns of colour into an identifiable something called a 'flower' is instantaneous and imperceptible; he or she just believes that it is a flower. In the mind of the actor, two elements have merged into one: the object and the sign.

The mind literally jumps to the conclusion that it is a flower that it sees, in about the same way that the mind reaches all of its conclusions, according to Peirce. In this sense there is little difference between getting an idea and having a sense impression. Or to cite an important passage from one of Peirce's writings:

Looking out of my window this lovely spring morning I see an azalea in full bloom. No, no! I do not see that; though that is the only way I can describe what I see. That is a proposition, a sentence, a fact; but what I perceive is not proposition, sentence, fact, but only an image, which I make intelligible in part by means of a statement of fact. This statement is abstract; but what I see is concrete. I perform an abduction when I do so much as express in a sentence anything I see. The truth is that the whole fabric of our knowledge is one matted felt of pure hypothesis that is confirmed and refined by induction. Not the smallest advance in knowledge can be made beyond the stage of vacant staring, without making an abduction at every step. (Peirce 1901)

The idea that there is an instant fusion of impression and sign in the mind of the actor represents the first important insight of Peirce. The idea that it is the object that determines that something happens in the mind of the actor is the second. Note that according to Kantian sociology it is the subject (roughly the interpretant, in Peirce's terminology) that assigns meaning to the object, while in Peirce's work it is exactly the other way around. Again, a figure may clarify Peirce's full argument about the way that the object determines the sign, which determines the interpretant (see Figure 2).

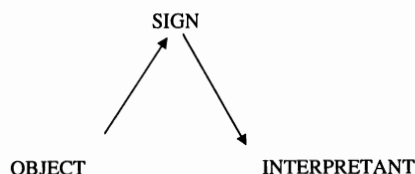


**FIGURE 1**

Peirce's definition of a sign in Baldwin's *Dictionary of Philosophy and Psychology* (1902).  
*Comment:* In 1902 Peirce famously defined a sign in James Baldwin's *Dictionary of Philosophy and Psychology* as follows: '[A sign is] anything which determines something else (its interpretant) to refer to an object' (Peirce 1991, p. 239).

The full line means 'determines'; the broken line 'refers to'. The reader should be aware that Peirce himself did not construct any figures to illustrate his theory of signs; and that the figures in this paper should only to be seen as imperfect illustrations of Peirce's arguments.

*Source:* Peirce, 'Sign' (1991, pp. 239–240)

**FIGURE 2**

Peirce's Full Definition of a Sign in a Letter to Lady Welby (1908).

*Comment:* In a well-known letter to Lady Welby from 23 December 1908, Peirce wrote, 'I define a Sign as anything which is so determined by anything else, called its Object, and so determines an effect upon a person, which effect I call its Interpretant, that the latter is thereby mediately determined by the former'.

*Source:* Charles Peirce, *Letters to Lady Welby* (1953, p. 29).

How can this argument be justified? Is it not the human actor who socially constructs what, say, an azalea is? The answer is yes – but only if you conduct the analysis from a certain perspective, viz. that of collective creation in some distant past. In the historical past it was at some point decided that this type of flower should be called 'azalea', and ever after this event, children have been taught that this is the case by their family; they have picked it up from other people and so on (see e.g. Elias 2006).

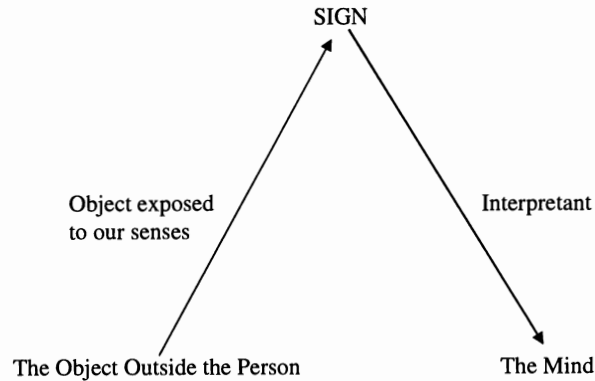
But from the perspective of the actual existing event and the actual existing individual, it is when we suddenly see a certain flower that the concept of 'azalea' is triggered or determined in our mind. We do not create this concept; it is already in our mind or accessible to us in some sign. When an azalea is brought into our field of vision, it triggers – it *determines* – the sign of 'azalea' in our mind.<sup>3</sup>

Peirce's idea of the triadic structure of the sign can also help us to better understand the role of the senses in relation to signs. According to Peirce, 'a sign ... is a vehicle conveying into the mind something from without' (Peirce 1960, p. 171). Just as an object determines the sign, which in its turn determines an interpretant, we may argue that an object influences or 'determines' one of the human senses, and that this sign then has an impact on the mind of the individual in question. Or to summarize our argument, inspired by Peirce, in one single sentence: *what we feel to be the impression of one of our senses ('I hear X', 'I taste Y') is in reality the merger of the sense impression with the sign* (see Figure 3).

Peirce's theory of signs provides us with a vantage point from which to analyze the examples cited earlier in the discussion of the role of the senses in the economy. What have been called impressions of the senses, turn out to be something that is much more complex in reality and involve different types of signs.

Take the example of chocolate. The tongue simply tastes sweetness, and this impression goes very well with a naturalistic approach to the senses. But if we were tasting chocolate in, say, early Mesoamerica, we would have felt more than sweetness; we would have felt something that was sweet *and* sacred. What takes place when the chocolate hits the tongue is an instantaneous process that involves several signs at the same time.

Also the constructivist sociologist can learn from Peirce's theory of signs. He or she has to look for the explanation far away from the individual actor, in order to get a handle on what is happening. The constructivist sociologist also has to present chains of explanations that are very long and do not meet the demands of Ockham's razor. When I taste something and think that it tastes like 'X', the constructivist sociologist must in principle abstract from the concrete situation and go back to the way that the actor was

**FIGURE 3**

The role of the senses from a Peircian perspective.

*Comment:* The figure attempts to illustrate Peirce's statement that the sign brings information from the objective world into the senses. It does so by arguing that this takes place through the senses; and that the sign that is involved contains some statement related to the sense. An actor will, say, bite into a strawberry (=object) and think 'this tastes like strawberry' (=the object expressed to our senses, melded into a sign).

socialized or encountered 'X' for the first time. The Peircian sociologist, in contrast, can focus directly on the individual's experience at the moment, since signs carry the meaning in question and are immediately available.

It should finally also be mentioned that Peirce was aware of the fact that the actor has to somehow tap into the collective meaning of a sign before he or she can identify, say, a particular flower as an 'azalea'. In his terminology, the interpretant must have what he called 'collateral experience' to be able to do so. 'By collateral observation', Peirce specified, 'I mean previous acquaintance with what the Sign denotes' (Peirce 1992–1998, p. 494). Still, this insight was in Peirce's mind subordinate to the more important idea that it is the object that determines the sign and the interpretant in the actual unfolding of experience and life. Collateral or what we would call 'social' experience enters the individual actor's mind through the sign – which determines the individual actor's mind. To some extent one can say that both perspectives are useful: that of Peirce and that of the social constructivists.

### Concluding Remarks

By looking at the senses from a Peircian perspective, I suggest, one can approach materiality in a way that allows the analysis of materiality to become more nuanced. The senses do not just transport objective reality straight into the mind of the actor. The social is somehow also present; and it is present in such an integral way that we cannot ourselves distinguish between what the senses are telling us and what is social. The sign is what establishes the link to the social; and signs also mediate between the inside and the outside, since they exist inside as well as outside of ourselves.

The Kantian-Weberian sociologist explains the social dimension by saying that the individual actor constructs and assigns meaning to the object, and that this is part of the social construction of reality. The meaning enters the mind through socialization in

some form, say through socialization, via one's peers, the educational system and so on; and it is then, so to speak, projected onto the object, rather like the way in which a photograph can be projected onto a screen.

The Peircian sociologist disagrees and refers to the systems of signs that exist outside of the actor but which he or she can access. These signs carry the meaning that the individual actor at some point learned to understand. As the individual actor encounters some object, he or she is affected and impacted by these objects – and in the very moment of impact the object is perceived through a sign. The causality goes from the object to the sign to the interpretant, in Peirce's terminology. And this is a process that takes place so quickly that the person equates the object with the sign without being aware of it.

It is finally also my view that the applicability of Peirce's theory may extend beyond analyzing the role of the senses in the economy; and that it could very well be helpful to use some form of Peirce's semiotics to analyze economic life and economic phenomena in general.<sup>4</sup> Technology can be understood as a set of signs and so can money; and cooperation in work can only take place through communication via signs. In economic life as well as in life in general, perhaps everything can be interpreted in terms of signs.

## NOTES

1. The idea that human beings have five senses has its origin in Greek thought and can most importantly be found in Aristotle (2006). Some Greek thinkers, including Socrates and Aristotle, felt that there also exists an additional sense that is hard to pin down and name. They referred to this as *aesthēsis* or a sense that is common to the other senses or/and the sense of feeling alive (e.g. Heller-Roazen 2009). It is today often argued that the number as well as the definitions of the senses is arbitrary. People's experience of pain and their capacity to navigate in space are among the candidates for additional senses. One could perhaps also talk of human beings being as endowed with a *social sense*; and one example of this would be Noelle-Neumann's famous argument about 'the social skin' (Noelle-Neumann 1993). For the senses in general, see e.g. Ackerman (1990), Jütte (2005), Smith (2007).
2. The section on the sociology of the senses in *Soziologie* (1908) is a few pages longer than the original 1907 version (Simmel 1992, 1997). Most of the new material, however, is devoted to a discussion of the relationship of sensuality to physical closeness.
3. There exists a debate in the secondary literature on Peirce on how to interpret what Peirce means by the term 'determine' in his theory of signs (see e.g. Short 2007, pp. 164–168). While my own view sharply differs from that of the consensus, in that I believe Peirce meant that 'determine' means 'to cause', his argument that *the object is the actor* (which is at issue here) is not challenged. Most discussions of Peirce's doctrine of signs seem to be more interested in presenting Peirce's ideas than to determine if these are useful for analytical purposes – and show why this is the case.
4. There exists a so-called signaling theory in modern economics, which originates with the work of Michael Spence. The focus in this type of analysis is on intentional signaling and asymmetric information, not on the broad type of signs that exist independently of the individual as in Peirce's work. For an overview of signaling theory, see Gambetta (2009).

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