

# The economics of attention.

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Signs that draw the attention of bypassers are everywhere. There are billboards advertising products, advertisement spots on television, flyers, blurbs on websites, people speaking, calling and screaming. Newspapers call our attention to all kinds of news. Public relations personnel call newspapers to have them pay attention to their "news". Marketing professionals assist businesses in figuring how to get the attention of potential customers. Scientists flock to conferences all over the world to draw attention to their work and pay attention to the work of others. Movie producers allocate a large chunk of their budget to finance a complex attention-getting process and so do directors of theatre companies. Individuals dress up and buy red cars to draw attention to their personality. Students dress up to their cv's to get potential employers to pay attention. And employers dress up the reception area to get the attention of potential employees.

Attention is **the** scarce good in a modern economy. It is the consequence of having a great number of suppliers wanting to trade a great variety of commodities to a great mass of people who are inclined to buy what other people buy. In a market place with such a characteristic having the attention is the condition of success. Getting the attention is the trick that everyone would want to know.

Once we have identified attention as the scarce good in a modern economy, the inattention of economists to this phenomenon becomes puzzling.

It is as if the getting and giving of attention do not fit very well in the standard economic model. After all, the standard presumption in that model is that prices match supply and demand. When there is

no match, the only thing that has to change to bring about an equilibrium is the price. During the last twenty years or so, information has been brought into the story. Yet information is only an element of the giving and getting of attention. Attention is about a great deal more. We purport that if attention is getting the attention it deserves in economic theory, that theory will require drastic adjustments.

The paper reports a few preliminary results of our investigation into the economics of attention. Our objectives are first of all to characterize the phenomenon, to locate and assess its role in economic processes, with the arts and the cultural industries as cases, and to indicate consequences for economic theory if attention is getting the place it deserves.

## The phenomenon identified and described.

Attention stems from the Latin *attendere* and connotes the act of attending one's mind or consciousness to a phenomenon. Facing a large crowd of people, our eyes will wander till one person, or a group, or peculiar characteristic of the crowd, like the inordinate number of red dresses, catches our eyes and has our attention in the sense that our mind focuses on the phenomenon. What happens in this state varies. We may simply register the phenomenon ("Hey, lots of red dresses") but our mind may also lock with the phenomenon and develop mental activity in the form of associations like memories, questions ("why are there so many red dresses?"). Accordingly, there is a quality to our attention. Quality presumes a range from high to low. Low quality attention is of the kind of mere registering a

phenomenon and storing it in our short-term memory. In this case attention is nothing but an observation or the storing of a piece of information. High quality attention would stand for active mental or intense emotional activity.

The consequences of our attention will vary, too. When the attention is not much more than an act of observation, no other action will follow. A higher quality attention may induce not only mental activity but also actions like a purchase, a meeting, a research project.

As far we could determine, most work on attention is done in psychology. Standard works in this field are **Conflict, Arousal and Curiosity** by D. Berlyne (1960) and **Attention and Effort** by Daniel Kahneman (1973). The approach in this book may indicate reasons why economists have avoided the issue altogether. As Kahneman points out, attention did not play an important role in behaviorism, Gestalt theory and psychoanalysis (p. 2) because the notion of attention problematizes the connection between stimuli that a human organism receives and its mental state. The theory has to allow for some degree of spontaneity and unpredictability to make sense of the factor attention. Berlyne was the pioneer that got the attention of psychologists. In general psychological theorizing is preoccupied with the type of limitations that restrict the attention span and scope of humans. Kahneman points at the importance of effort as an input next to the input of information or stimuli to the process of paying attention theories. The presumption is that humans have a limited capacity at any time for the total amount of attention that they can give. Effort can influence the intensity of attention. Study a play before going to the theatre, learn about the context in which the play comes about, and the result is that you will intensify your attention during the play, probably picking up details that a less well prepared viewer will miss.

The effort is usual cognitive. It is an aspect of the process of attention that advertisers try to exploit. When advertisements jolt our mind, as when a Toyota advertisement propagates driving a

Toyota by showing a crash with that very same car, we have to exert some mental effort to resolve the puzzle presented to us with as the result that we are paying attention. The risk is, of course, that the attention comes with a negative image but given the scarcity of attention, this risk may be worth taking.

Apart from a few of these insights the psychological research has little to offer economists who want to know how the problem of attention is influencing economic behavior and institutions. It may help us understand why neo-classical economists, and not only they, have avoided a serious consideration of the issue.

#### The lack of economic attention to the phenomenon of attention

We expect that those who are accustomed to think in standard economic terms, will tend to subsume "attention" under the category of "information". Even if "information" stands for more than the data (a non-subjective phenomenon), and comprises the subjective phenomenon of the knowledges of agents ("knowing that something is the case", "knowing why something is the case" as well as "knowing how some case comes about"), "attention" remains a distinctive phenomenon. First of all, as the psychologists readily point out, attention designates a mental state. Secondly, attention implies selection or focus. When our mind is bombarded with an abundance of impulses, like pieces of information, our paying "attention" implies that our mind has focused on a few of these impulses. The various knowledges may play a role in this selection. Knowing a thing, like knowing that a particular religious group wears red dresses, may be responsible for our paying attention to the red dresses in the crowd. We may have paid attention without such knowledge but the quality of our attention might be higher, or low when we know all too well and the abundance of red dresses is nothing out of the ordinary. At any rate, attention is about selection and focus, and that makes the difference.

All this does not fit in the mechanistic and

behaviorist approach of standard economic analysis. Such an approach can handle information issues but does not seem to incorporate a meaningful theory of the role of knowledge in economic behavior. Without a theory of knowledge, it's hard to see how neoclassical theory can take a mental state seriously. Ever since Hicks, Debreu, Samuelson, among others, showed how economic reasoning is possible without paying attention to mental states and activities, standard economic reasoning has systematically avoided dealing with mental states and activities. It congeals our mental processes of liking and not liking, valuing, appreciating and so on, in the form of "given preferences", or well-defined utility functions. The complexities of "knowing why and how" become a matter of "knowing that", as in "information" and "rational expectations". The overall purpose appears to be to reduce the explanatory role of mental states and activities to a minimum.

In an ideal market attention does not play a significant role. When competition is perfect, individual suppliers do not have to draw attention to their ware and, therefore, will not advertise. In that case individual buyers do not have to select one item in the mass of items supplied because each item is just the same. If we furthermore assume that individual buyers know what they want (preferences are fixed), we assume in a way that their attention is well-defined and therefore no factor to distinguish in the analysis. The standard story remains simple: The farmer takes his grain to the market, receives payment in accordance with the market price. The buyer goes to the market to get the grain he needs and simply pays the market price. That's all there is to it. There is no problem of attention.

In the cases of oligopolies and monopolistic competition attention might be expected to become a factor given the unpredictability of such markets, but it does not. Neither does the business of advertisement, marketing and public relations their prominent role in business practices notwithstanding. It's no wonder that economic agents and students of business practices tend to doubt the

relevance of economic theory.

### Scientific behavior and institutions revolve around attention

In order to clarify the crucial role of attention we now turn to two areas. One concerns the area of the arts. But we want to begin with an area that should be most familiar to the reader, our own world, the world of science.

Consider what we, scientists, do. Presumably, we produce something we call knowledge. In our case we have this idea about the importance of attention in economic processes. With an unfortunate metaphor it is said that we are operating in a market for ideas. The metaphor appears unfortunate because so many elements are ill-defined in our case. It is hard to tell, for example, what our product is, and it is almost senseless to speak of its price or, for that matter, the buyers. The metaphor only makes sense insofar we experience ourselves in competition with other scientist, just like suppliers in a market experience themselves in competition with other suppliers. What are we competing for, though? Ideally, it would be authorship of the truth. Just like Crick and Watson got credited with the discovery of the basic DNA structure-with all the emoluments that come with such a credit, like scientific status, the Nobel Prize, grants, fat salary maybe-we might want to be credited with the discovery of attention as an economic factor. Fat chance. That is not what this competition is all about.

Just consider the world we are dealing with. It is crowded with many other fellow researchers who are working on many, mostly very different ideas. We know that just talking about our ideas will not suffice. That is why we are writing them down. We also know that just writing them down will not suffice either. Some among us may hold on to the belief that the truth will ultimately speak for itself and therefore will restrict their scientific activities to researching and writing. We know better. We organize seminars, correspond with other scientists and attend conferences, and for that reason, write

our findings down in a paper. All this activity consumes a great deal of our time but we consider it a necessary expense for the good that we are after, and that is attention. The competition among us scientists is for the attention that we give to the work of each other.

There are tens of thousand economists who do what we do. Each year they produce more than ten thousand articles. Most of these articles are hardly ever or never cited in the literature. If people have read them, they probably do not consider them worthy a citation in their articles. This means that the greater majority of our fellow scientists does not catch any attention with their articles. This harsh reality also presents itself at our conferences where a few of us, the keynote speakers maybe and usually someone with a name, get a great deal of attention in the form of attendance to their sessions and, more importantly, conversations afterwards about their ideas. Most of us present our ideas in sparsely attended sessions, get a few comments of a discussant and that is that. Nobody will refer to our work and no further discussion ensues. Our contribution has meant as just as the noise that a falling tree makes in a forest with nobody around to hear it. So we strive to write articles like the "Allocation of Time" by Gary Becker, the "Lemons" article by Akerlof, or the article by Muth on rational expectations, all of which have received a great deal of attention in the form of numerous citations and endless discussions in seminars and classrooms. Attention is what our game is about.

Our case brings out a few characteristics that may serve as a focus in our further explorations:

- Many people who seek attention for their work
- Many people who are willing to pay attention
- Both groups engage in costly activities to get or pay their attention.
- Attention shows up in measurable forms like number of citations but also in immeasurable forms like discussions
- Only a few "works" end up getting a great deal of attention whereas most "works" receive little if any attention.

These characteristics point at the scarcity of attention. Even though there are at least as many individuals willing to pay attention as there are those who seek attention, only a few end up with an inordinately high quality of attention and most people receive no attention. Just like in the world of business, we need in the world of science to make special efforts to draw attention to our work.

We also note that attention does not get distributed evenly. Even though there are many people willing to pay attention, they do not distribute their attention equally over all the works that seek their attention. Only a few items stand out. Accordingly, the selection that we earlier identified as a crucial characteristic for the attention that an individual gives, is also a crucial characteristic for attention as a social given.

The hourglass provides the analogy that captures these characteristics. On the upper side crowd all those individuals, organizations, works or products that seek attention. The lower side gathers all individuals, groups and organizations willing to give their attention. It stands in a pool of many more to indicate that others may be persuaded to join the crowds of attention-givers.

(In the case of a scientific article this pool is quite small whereas in case of a film this pool is very large and deep.) The small part of the hourglass contains the selection of individuals, organizations, works or products that receive attention. A few of these receive a great deal of attention.

In the following we will explore a few other situations in which attention appears to play a significant role. We want to describe that role and assess its significance. The latter task will prove to be complicated. At this point we can not do much better than identify a few institutions that the role of attention find out not only.

#### Economy of attention and the art market

On the market for art, the economy of attention has two dimensions, a quantitative and a qualitative dimension, which turn out to be related. The quantitative dimension is no doubt the simpler one: whereas the supply of paintings is seemingly

limitless, the demand is not: most people do not buy paintings for collecting per se, but in order to enjoy their aesthetic value hanging in the walls. This space is obviously limited. It should be granted that paintings can be stored, get lost, deteriorate, get out of fashion, but still, the limit will soon be reached. On the supply side, however, things are different: there seems to be no limit to the number of people that decide to become an artist, and that hence will supply their work on the market (figures of art school enrollment in the Netherlands?) .

What would happen on a competitive market in the case of steadily increasing supply and steadily decreasing demand, an economist would say, is that prices tend to decrease as well. On the art market, this is not the case however. The most obvious reason is that the art market is not competitive: instead of a homogeneous product quality, absolute heterogeneity prevails. Every artist, so to say, constitutes its own market. Demand is not for a painting in general, but for a specific artist. Rather than a work, a 'name' is being bought. As a result, the reputation of the artist, or his artistic value, tends to coincide with the economic value of his Work.

This process is reinforced by a qualitative characteristic of the art market: radical uncertainty about the good being sold: since the quality of painting is increasingly difficult to estimate for a lay audience, we tend to rely on experts to make our own judgments (cf Plattner 1996) . In other words, experts tell us what to look at, which works only deserve some slight attention, and which should be left out entirely; likewise, they operate as brokers in attention.

In order to 'guide' the seemingly limitless supply to the limited demand, a number of selection mechanisms have been created in the course of history, some of them most obvious, like the admission process before entering an art school, some of them less so, like the attention an artist may draw from the written press. As former director of the Tate gallery puts it, "there is a selecting process inexorably at work, and those of us who spend time buying and exhibiting

contemporary art, writing and talking about it, even simply looking at it, are playing a part in that process" (Bowes, p. 61) .

Without attention, the artist's chances of selling works to the limited audience decreases considerably. Furthermore, it seems to be the case that in the initial stage, chance is an important factor: "By chance, an artwork may catch the attention of an insider of the art scene who gets curious and begins to ask questions (Bonus and Ronte 1997, p. 111) . After that initial stage, a path dependent process seems to unfold; once initial attention is caught, in other words, other people will be more likely to take the artist into consideration.

Given the combination of a limited demand and a seemingly limitless demand, the economy of attention on the art market tends to get overheated. Symptoms of it are the fact that 50 % of the revenue of most gallery sales, goes to the gallery; it used to be about 30% in the early 1980s (Galjaard) . The gallery needs this high percentage to cover costs which the economy of attention occurs: attracting the attention of critics by writing press releases and contacting them frequently, getting museums interested by awarding them privileges, attracting a general crowd by giving fancy vernissages. Another symptom is the flourishing art fair. Especially on the secondary market, a major part of the sales are made on art fairs. Actors can hold different positions in the economy of attention at one and the same time. A gallery, for instance, both supplies attention to the artist it represents, while it is at the same time dependent on the attention it receives from art critics and museums.

#### The institutions of the economy of attention (preliminary)

Having illustrated the critical role that attention plays in the fields of scientific and artistic production, we are left with all kinds of questions and tasks. First of all, we want to identify the institutions of the economy of attention. Which customs, practices, functions, and organizations operate to serve the getting and giving of attention.

How do the efforts manifest themselves in the economy? And what claim do these institutions and efforts make on the economy as a whole?

In their paper entitled *One Quarter of GDP is Persuasion* (AER, May 1995), McCloskey and Klammer calculate that at least one quarter of GDP concerns efforts of persuasion. These efforts include the advertisement business, but also part of the media business, the hotel and transport business (people traveling to meet other people), and the communication and information business. Think also of sales people who try to persuade customers to change their mind and make an unplanned purchase. Surely, there must be a significant overlap between the business of persuasion and that of the giving and attracting attention.

Consider the movie industry. Hollywood firms already reserve almost 40 percent of their production budgets for promotion. This percentage has increased significantly as the competition for attention of moviegoers has intensified. The percentage would be even more if we consider the expenditures on stars in the cast and in the production team as well as the costs of special effects insofar as these expenses are made with the explicit purpose to make the product distinctive and therefore an eye catcher. The economy of stars, therefore, (cf Rosen, AER December 1981) should be considered a topic pertaining to the economy of attention. Rosen, incidentally, ascribes a major role to new technology which makes it so much easier for a bundling of attention across the globe. Madonna is not just a star anymore in the US but thanks to television and the cd commands attention and resources in virtually every village anywhere.

Obviously, the advertisement and communication business constitute a major part of the economy of attention. They form the institutions that target target the smallest part of the funnel. The objective is the generation of a critical mass of potential attention suppliers. In the movie industry the challenge is to get people to talk about movie. That's why negative publicity can be good publicity.

A movie has to stand out in order to be noticed.

Other important institutions of the economy of attention operate within business organizations. Production managers, acquisition editors, editorial boards, referees and personnel officers serve as gatekeepers. They make a first cut in the demand for attention. Especially in the cultural industries entire departments are assigned with the task of selection. The obvious reason is that these organizations have to invest a great deal in the marketing of any of their products so they have to make a selection. In the book industry we see a slacking off of the selection that publishers do. Even though the supply of attention for books diminishes rapidly (diminishing readership), the demand for it increases with an inflation of book titles. One possible explanation for this phenomenon is the unpredictability of the supply of attention. The rule of one in ten applies. Of each movie, article, or book presented, only one in ten receives enough attention to justify the costs of drawing it. One in ten of those attention grabbers, do so in a big way. Because the gatekeepers know their own limitations, they need to let through sufficient articles in order to handle the odds of one in a hundred. But the institutions.

Another important question concerns the role of technology. Just like the introduction of new communication technology boosted the economy of attention and placed it central stage of the modern economy, internet technology may introduce another stage in the economy of attention. The stocks of Internet companies that are successful in concentrating the attention of millions of surfers, like America Online and Amazon-dot-com have increased greatly in their value even though they in some cases have not made a penny of profit yet. Apparently investors expect a great return on the advantage that these companies have built up in concentrating the attention on the web.

As promised this paper is not much more than a first exploration of the phenomenon of attention. It calls for further research while calling the

attention to the astonishing lack of attention by standard economics. The connection with the research on the role of persuasion in the economy appears to be obvious. While psychological research is of some use, our inclination is to look rather for the institutions that the economy of attention generates.

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