

Muchlinski, Elke

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**Is there a need for a coded language in central
banking?**

Elke Muchlinski

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»Is there a need for a coded language in central banking «?

PD Dr. Elke Muchlinski, M.A. Phil.¹

Lehrstuhlvertretung »Monetäre Ökonomie« Universität Trier

<http://www.fu-berlin.de/wiwiss/institute/wirtschaftspolitik-geschichte/muchlinski>

»*The times, they are a changin'...*“attitudes and policies toward central bank communications have undergone a radical transformation in recent years. Not long ago, secrecy was the byword in central banking circles. Now the unmistakable trend is toward greater openness and transparency. Increasingly, central banks of the world are trying to make themselves understood, rather than leaving their thinking shrouded in mystery (Blinder/Goodhart 2001:1).«²

Changing times inevitably include changing questions and the acceptance of an interdisciplinary approach to macroeconomic theory. The consequences are significantly.³ It has initiated a theoretical upheaval on modern central bank theory. This is also true for the topics of research related to a central bank's interactive procedures touching its market interdependencies and relations. The focus on the central bank's way of acting, its use of language and modes of communicative interactions has also been drawing much attention.

The scientific process is not based on the avoidance of alternative questions and methods of expositions. This is true for central banking and macroeconomics. In his presidential address Akerlof demanded an interdisciplinary approach to macroeconomic theory to replace the prevailing concepts with modified concepts supported by research

¹ I thank Susan Hechler (Berlin) for critical comments on the English version of my paper. This paper is an introduction of the forthcoming book: Muchlinski, Elke (2009) *Central Banks and Coded Language. Risks and Benefits*. Palgrave Macmillan.

² Blinder, Alan/Goodhart, Charles/Hildebrand, Philipp/Lipton, David/Wyplosz, Charles (2001) (Eds.) *How Do Central Banks Talk? International Center for Monetary and Banking Studies (ICMB)*, Geneva Reports on the World Economy, No 3, Geneva/Oxford.

³ I gave a first approach to that issue: Muchlinski, Elke (2002) Die Fed im Kontext der Transparency Debatte. In: *Diskussionsbeiträge des Fachbereichs Wirtschaftswissenschaft der Freien Universität Berlin*, Nr. 2002/19, ISBN: 3-935058-46-2. Muchlinski, Elke (2005) Central Bank Transparency: Reasons for 'Creative Ambiguity'. In: Hölscher, Jens/Tomann, Horst (Eds.) (2005) *Globalization of Capital Markets and Monetary Policy*. Palgrave, Macmillan: Houndsmills, Basingstoke et al: 130-147. Muchlinski, Elke (2008) Sprache, Bedeutung und Verstehen in der Ökonomik – Eine kodierte Sprache für die Federal Reserve Bank? In: Kabalak, Alikan/Priddat, Birger/Smirnova, Elena (2008) *Ökonomie, Sprache und Kommunikation. Neuere Einsichten zur Ökonomie*. Metropolis Verlag, Marburg: 86-117.

in sociology and psychology.⁴ I would like to propose that modern economic institutions, like central banking, too, should link the premises of central bank communication to new researches in language sciences.

My paper sheds light on the importance of the creation of meaning and understanding of words and sentences within the context of central banking.⁵ The **first type** deals with the implications and consequences of the new paradigm of central banks »matching deeds to words«. ⁶ The new paradigm refers implicitly to modern language sciences and cognitive sciences.

A **second type** of consideration focuses on the central question: *Is there a need for a coded language?* The implication I am going to explain in this paper emerges from the proposition that words and sentences have no meaning beyond their use in a particular context. In contrast to that – a coded language is an artificial language.

My hypothesis is that uncertainty which is the landscape of central banking would be increased by the use of a coded language. In contrast to a coded language, the use of everyday language – the language in practice – configures a certain context understood by participants of the financial market and the central bank. I want to bring the central bank literature into dialogue with important research in the language sciences which are important for social sciences.

JEL: A12, B25, E42, E52, E58, F 33, F58, Z13

Key words: Central banks and their policies, institutions, communication, language and meaning

⁴ Akerlof, George A. (2007) The Missing Motivation in Macroeconomics. Presidential Address, *American Economic Review*, Vol. 9 (1), 5-36.

⁵ I gave a first introduction to both types: Muchlinski, Elke (2007) Central Banks: Transparency or Bafflement? From 'monetary mystique' to 'matching deeds to words'. Habilitationsschrift submitted to the Faculty of Economics, Free University of Berlin, 09 May 2007.

⁶ Blinder, Alan S. (1998) *Central Banking in Theory and Practice*. Cambridge, Massachusetts et al. Blinder, A./Ehrmann, M./Fratzscher, Marcel/De Haan, Jakob/Jansen, David-Jan (2008) Central Bank Communication and Monetary Policy: A Survey of Theory and Evidence. In: *Journal of Economic Literature* 2008, 46-4: 910-945.

**First type of consideration: the implications and consequences
of the new paradigm of central banks »matching deeds to words«**

"The central bank owes the public transparency and accountability. Communication is at the heart of both"
(Blinder/Goodhart et al 2001: 2).

My contribution is concerned with the new paradigm of central banking. According to the modern view on central banks, credibility, accountability and transparency refer to the central bank practice. Discourse on central bank transparency and communication has been moving beyond the silence of a black box mechanism as proposed by model view. Blinder (2004) pointed to the revolutionary changes of modern central banking as a "quiet revolution".⁷

"A central bank is invested with enormous power over the economy; and, if it is independent, that power is virtually unchecked. This authority is a public trust assigned to the bank by the body politic. In return, the citizenry has a right to expect – no, to demand – that the bank's actions match its words. To me, that is the hallmark of credibility: matching deeds to words" (Blinder 1998: 63-64).

As Issing also emphasized, transparency implies "we do what we say and we say what we do", whereas accountability means "we do what we are supposed to do".⁸

Modern central banks today have already ceased to picture themselves as temples of secrecy rooted in the realm of metaphysics and unable to communicate and explain their procedures.⁹ A central bank or institution respectively, acts within historical and contextual forms of life and norms. The success of a central bank's communicative interactions with the agents of financial markets is not rooted in reference to presumed invariant structures of the markets themselves. Any communicative interaction of the central bank affects and shapes its environment and therefore the context of its action. The goal of a central bank, its mandate of price

⁷ Blinder, Alan S. (2004) *The Quiet Revolution. Central Banking Goes Modern*. Yale University Press, New Haven & London.

⁸ Issing, Otmar (1999) The Eurosystem: Transparent and Accountable or 'Willem in Euroland'. In: *Journal of Common Market Studies*, Vol. 37, No. 3: 503-19: 508.

⁹ Greider, William (1989) *Secrets of the Temple. How the Federal Reserve Runs the Country*. Touchstone, New York.

stability, its policy and instruments are not phenomena of nature and hence not issues of natural science. The concepts of social science are not embedded in natural science or natural laws.

Paper money is created by the central bank based on certain principles, foremost of which is the acceptability of its role by society. The acceptability of a central bank's money depends on how money possesses credibility as a store of value, a standard of deferred payment and medium of account. Money is neither neutral nor a so called bank's positions. Words and sentences have no meaning beyond their use in a context. "veil" of barter economy. Any action of a central bank is itself a part of conceptual actions within a complex situation. It is for this reason that a central bank's talk matters and why it gives the use of language an important role in shaping the central bank's positions. Words and sentences have no meaning beyond their use in a context. "Every sign *by itself* seems dead. What gives it life? – In use it is *alive*" (Wittgenstein).¹⁰

Knowledge of context is also created and embodies a central bank's history that can be described only by using concepts expressed in language. These concepts are impregnated by their use in historical context and have to be reread in the light of current debates of cognitive and language sciences. The history of central banks, conceptually understood, can be judged and described by their applied concepts and implemented actions in the past and now. The new paradigm "matching deeds to words" implies the acknowledgement of language as a social fact – as it is known in literature and philosophy of language and science, rather than acknowledged in economic science. Language is not a vehicle which transmits an already given meaning like a billiard ball carried and thrown out of a box. The function of language activity in a dialog – even the communicative interaction of the central bank with non-homogeneous agents of the financial market is a dialog – derives from the wish to be understood. People communicate to reach a common goal or understanding.

"Nothing could be more obvious: we want to be understood, and others have an interest in understanding us; the case of communication is castly promoted by such sharing".¹¹

¹⁰ Wittgenstein, Ludwig (1978) *Philosophical Investigation*. Basil Blackwell Oxford

¹¹ Davidson, Donald (1994) *The Social Aspect of Language*. In: McGuinness, Brian/Oliveri, Gianluigi (Eds.) (1994) *The Philosophy of Michael Dummett*, Kluwer Academic Publisher, Dodrecht, et al: 1-16: 9.

This is also true for institutions which communicate through people, agents and – for instance – the chairman of a central bank.

Research on transparency and language aspects of central banks has flourished over the past years. This first type of consideration summarized briefly the main reasons why central banks have chosen to become more transparent in explaining the value of transparency in conducting monetary policy.

Modern central bank theory has been passing beyond the silent black box mechanism. For instance, the Fed has been walking a long way from "monetary mystique and secrecy" towards new methods of communicative interactions (Goodfriend).¹² The Federal Reserve's road to transparency, flexibility and monetary policy is evident: Since its 'turning point' in the year 1994 the Federal Reserve has been avoiding misleading analogies and rigid rules. The Federal Reserve Bank (Fed) has been moving out of "monetary mystique" towards "matching deeds to words".

This is also true for academic discourses on central bank statements, which have initiated a theoretical upheaval over the last few years. Transparency of independent central banks is desirable for the enhancement of the effectiveness and accountability of central banking. At this point, the focus on language has been drawing much attention. Undoubtedly, the central bank guides the expectations of economic agents, and it is also part of its own backdrop because talk and the policy of disclosing certain information are to be interpreted as self-commitments of a central bank.

More precisely, the central bank aims to share these expectations because of its interest in achieving its objectives. As new research emphasizes, central bank statements convey useful information *if* market participants *perceive* what a central bank is really saying, i.e. interpretation matters. This has caused the scientific community to become wary of traditional concepts of interaction between institutions. The new paradigm »matching deeds to words« leads to further questions: How, when and in which ways do statements by a central bank have a function in shaping the expectations of private agents?

Current empirical studies shed light on the difficulties of answering these questions. Central banking and monetary policies have become a distinct consideration

¹² Goodfriend, M. (1986), Monetary Mystique: Secrecy and Central Banking, *Journal of Monetary Economics*, 17: 63-92.

of economists and theorists.¹³ This has provoked new questions, distinct methods and views and opened up further investigations within the community of science. The compelling changes for central banking and monetary policy have evolved out of new perceptions and responsibility for price stability.

As history reveals, central banking and monetary policy had to pass through a long painful process of learning and re-orientation. The function of central banks in the economy and their monetary policy strategy, their instruments and methods appeared to be something in the background, in the realm of a "temple of secrets".

Regardless of the impressive literature on central bank transparency and communication, the question of how a central bank should talk is still being debated. As Blinder et al., state, in principle, central banks should, on principle, be transparent about their decisions and proceedings of monetary policy meetings as well as about their own view of future developments (Blinder/Goodhart et al 2001: 3-5). Therefore transparency focuses not simply on providing more or maximizing information, for instance, monthly reports, minutes, speeches and press releases, etc., but requires a certain way of conveying information to market participants. Poole emphasized that transparency is inevitably linked to communication which also lead to the risks of miscommunication and therefore misunderstanding.¹⁴ I will return to that issue in my second type of consideration.

At this point, more information does not imply greater transparency. First of all, the modern view of central banking implies that a central bank does *not* try to fool the public.¹⁵

¹³ See Blinder/Ehrmann/Fratzscher et al (2008) *ibid*; Kohn, Donald L. (2005) Central Bank Communication. Remarks at the Annual Meeting of the American Economic Association, Philadelphia. January 9, 2005, <http://www.federalreserve.gov/boarddocs/speeches/2005/> A pioneering work offered Kohn, Donald L./Sack, Brian (2003) Central Bank Talk: Does it Matter and Why? Washington, D.C.; Board of Governors of the Federal Reserve System. <http://www.federalreserve.gov/>

¹⁴ "It is hardly surprising that central bankers are more talkative than they were just a decade or so ago, and more concerned about how to improve transparency and communication with the market. Perhaps only one issue is settled: Transparency is important but is hard to accomplish because miscommunication is so easy. Clearly, more talk does not necessarily mean greater transparency". Poole, W. (2004) FOMC: Transparency. <http://www.stlouisfed.org/news/speeches/2004.html>

¹⁵ "If the monetary authority can be clearer about what it is doing now and plans to do – not in the sense of setting future moves in stone, but rather in terms of explaining risks that might influence future policy – then market participants can improve their expectations of future short rates, and possibly reduce the premium for uncertainty". Ferguson, R.W. (1999) Transparency

The modern view of central banking is rooted in the realm of central bank practice, which focuses on the effectiveness of monetary policy as practice. It tries to avoid assumptions or premises that are not linked to the contemporary world. An admitted fact is the asymmetry of time horizons of the different agents in different markets and the central bank. The goal of price stability is a long lasting objective a central bank can only try to achieve by acting in short time horizons, a practice which may conflict with the interests of market participants.

Focusing on the expectations-building process also implies to investigating the interdependence and communicative interactions between the Federal Reserve Bank and agents in the markets. A central bank's power determines the short-term interest rate, whereas the long-term interest rate is in fact the crucial aspect upon which market participants direct their attention. As Blinder expounds:

"The interest-sensitive components of aggregate demand react mainly to the real long rate while the central bank controls only the nominal short rate. In other words, the interest rate that the central bank can control doesn't matter (much), and the rates that really matter cannot be controlled" (Blinder 1998: 30).

Transparency and the distinctive communicative interactions of the central bank with financial markets are not options but rather preconditions of modern central banks. There is no »invisible hand« which co-ordinates the central bank's decision on interest rates with the result of an international equilibrium.

In the traditional model world of central banking deductive reasoning and the premise of »neutrality of money« dominate, while transparency, accountability and credibility are linked to the premises of the model world itself. Contrary to the traditional view, in the modern paradigm of central banking transparency, accountability and credibility refer to verbal and non-verbal interactions and communication and therefore to the need for aiming at a common understanding. A central bank must be able to act flexibly which does not imply acting without self-commitment. Transparency implies an understanding of what a central bank is in fact doing. Transparency is a result of verbal and non-verbal interactions and of reciprocal

relationships between a central bank and the market about changes of market variables and the perceived reaction by the central bank, the market and the public.

Regarding the importance of talk, language and communication to monetary policy the Fed has been pursuing a new strategy of communication since 2000; and already since 1994 it has been announcing the target for the Federal Funds Rate:¹⁶

The Fed signals its verbal participation within a social context and reflects the reciprocal relationship with the market, which has to be interpreted. These are the bases for its reputation and credibility.

Issing underlined that important point, because transparency is not a mental state but is rather rooted in acting and interacting:

"Complete transparency of the underlying information set, as well as the thinking and ulterior motives behind central bankers' decision, is logically and practically impossible to achieve. (...) This reflects a deeper (philosophical) recognition of the limits of 'knowledge' and the impossibility of providing and communicating anything like a full description of reality: 'Reality is never transparent. What we see from any one angle is always only part of the picture' (Issing 1999: 507).

A second type of consideration focuses on the question:

Is there a need for a coded language?

The implication I am going to explain in this paper emerges from the proposition that words and sentences have no meaning beyond their use in a particular context. A coded language is an artificial language.

The meaning of words or sentences and of understanding is rooted in communicative interaction, or action (respectively non-action) within a context. It was Watzlawick and his co-authors who revolutionized thinking in terms of communicative interaction.¹⁷ Their important and in sciences well accepted conclusion is that *it is not*

¹⁶ "The language indicates the Committee's sense of the balance of risks in the outlook against the background of the Committee's long-run goals of price stability and sustainable economic growth. Specifically, it indicates whether the Committee believes that the risks are 'balanced with respect to prospects for both goals', 'weighted mainly toward conditions that may generate heightened inflation pressures, or 'weighted mainly toward conditions that may generate economic weakness', Ferguson, R.W. (2001) 'Transparency in Central Banking: Rationale and Recent Developments', *Remarks before the National Economists Club and Society of Government Economists*, Washington DC, April 2001, URL: <http://www.federalreserve.gov/>

¹⁷ Watzlawick, Paul/Beavin, Janet H./Jackson, Don D. (1967) *Pragmatics of Human Communication. A Study of Interactional Patterns, Pathologies, and Paradoxes*. Mental Research Institute, Palo Alto, California, New York, WW. Norton & Company.

possible to avoid communication. Even if a central bank hides itself behind "the secrets of a temple" it nevertheless adheres to a certain kind of communicative interaction or style, because a so-called non-action is perceived as an interaction – or more precisely as the avoidance of interaction. It is important to accept this research for economics as well in order to perceive which differences central bank interactions make and to enlighten the need for shaping a central bank's actions.

As it is known from the history of science, any event is embedded in its historical context. It is not possible to separate the event from the context without creating a meaningless object. Furthermore, meaning and understanding are embedded in action. Focussing upon a single word – or a coded language – would imply the danger of non-understanding and of veiling the context in which a central bank acts. Relying on a coded language neglects the conditions under which the central bank acts to achieve its mandate. Therefore, a strategy of communicative interaction oriented to a coded language will be an impediment on the central bank's road to its mandate. The action of any institution like a central bank is a result of its acting capacity and its acceptance by society. To put it more precisely, a central bank's communicative interaction with the financial market cannot be depicted in terms of mechanics.¹⁸

I now turn to Winkler's approach.¹⁹ He also defines transparency as linked to a communication strategy of a central bank and common understanding. He proposes a differentiated view of transparency focusing on "the twin roles of a monetary policy strategy: information efficiency and communication" (Winkler 2000: 15). Winkler proposes two dimensions of central bank communication: (...) internal and external communication. Both dimensions are important for achieving transparency. Furthermore, the process of communication is to be differentiated in a vertical and horizontal dimension, as seen in the gray and white boxes. These colored figures give a first impression of the problems any central bank has to deal with: the perception and attention that market participants do or do not pay to its statements or information. Winkler states that central banking or monetary policy respectively is best explained by the »language analogy«. He also claims that communication is a »vehicle for

¹⁸ Muchlinski, Elke (2006) *Was meint Wittgenstein mit 'In der Sprache wird alles ausgetragen'?* Logos Verlag Berlin. (English title: 'What does Wittgenstein mean with 'It is in language that it's all done'?)

¹⁹ Winkler, Bernhard (2000) Which Kind of Transparency? On The Need For Clarity in Monetary Policy-Making. ECB, *Working Paper Series*, No 26, Frankfurt am Main.

information transmission« – However I think the term language has to be defined more precisely.

The fundamental assumptions of his new approach to central bank communication are three concepts: clarity (C), honesty (H), and common understanding (CU). Clarity implies the strategy by central banks to structure and simplify information. Regarding heterogeneous agents in the market, a central bank has to differentiate its information, which can not be viewed as a homogenous good. The danger of confusion from multiple public messages or greater asymmetry of information forces it to provide differentiated information. The result is that the traditional assumption of »common knowledge« is meaningless because different agents or groups in the market will get different information, which they also perceive and interpret differently.²⁰

How then is understanding possible? "Without this sharing of reactions to common stimuli, thought and speech would have no particular content – that is no content at all." (Davidson 1991).²¹ Understanding depends on how market participants do interact – verbal and non-verbal.

"To understand the speech of another, I must be able to think of the same things she does; I must share her world. I don't have to agree with her in all matters, but in order to disagree we must entertain the same proposition, with the same subject matter, and the same standard of truth. Communication depends, then, on each communicant having, and correctly thinking that the other has, the concept of a shared world, an intersubjective world. (...) The conclusion of these considerations is that rationality is a social trait. Only communication has it".²²

Honesty indicates that the meaning of a central bank statement cannot be an external one. Winkler defines honesty as "the degree to which the representation of information employed in external communication corresponds to the actual structuring of information adopted internally. (...) Conflicts may, however, arise between internal and external communication needs" (Winkler 2000, 20).

²⁰ The definition of the common knowledge assumption says: "An event is common knowledge among a group of agents if each one knows it, if each one knows that the others know it, if each one knows that each one knows that the others know it, and so on... Thus, common knowledge is the limit of a potentially infinite chain or reasoning about knowledge", Geanakoplos, J. (1992) Common knowledge. *Journal of Economic Perspectives*, 6 (4): 53-58.

²¹ Davidson, Donald (1991) Three Varieties of Knowledge. In: Griffiths, A.P. (1991) *A.J. Ayer. Memorial Essays*. Cambridge: Cambridge University Press: 153-166.

²² Davidson, Donald (1982) Rational Animals. In: *Dialectica*, 36: 317-327.

Avoiding the traditional notion of common knowledge, Winkler examines the relevance of common understanding. Since monetary policy acts on the basis of rules, these rules are to be interpreted as a "coordinating function in organizing public discourse" (ibid: 23). He emphasizes the importance of the sender within his modified receiver-audience model in order to conclude: "transparency rests on the degree of common understanding between the two and is thus a social phenomenon" (ibid). The reason for this assertion is that central bankers' language is often vague. Vagueness is characteristic of language, which is a social phenomenon. Trying to express a central bank's or central banker's statement in formal or coded language would circumvent common understanding.

A central bank is compelled to focus on special information and to investigate certain economic developments, i.e. the monetary transmission process which differs greatly between countries, or, for further examples, prices of goods markets, currencies, the rate of economic growth, etc. Furthermore, a central bank has to communicate certain data according to an economic environment. This clearly describes clearly their role as a monetary institution. Winkler concludes:

"From this perspective a monetary policy strategy is like a language. Like a language it provides tools, and a frame for reasoning, and a vehicle for communication" (Winkler 2000: 23).

At this point, it should be emphasized, that language is not a vehicle to transmit ready-made information by a sender to a receiver who is like an empty box, which just receives information passively. This antique »conduit-metaphor«, which is embedded in the traditional theory of communication²³ is neither compatible with modern central bank theory and practice nor with the modern view of communication and the function of language. Consequently Winkler states:

"The notion of transparency as common understanding not only refers to information and modes of interpretation shared between central bank and the public. Communication takes place not between two monolithic players but between multiple senders (...) and multiple receivers. In such a setting, a central bank's announcements also perform additional internal and external coordination functions" (ibid: 24).

Let us summarize Winkler's view so far: The avoidance of the common knowledge assumption opens another theoretical perspective on the interaction of a central bank with the heterogeneous audience and different markets.

²³ Lasswell, Harold D. (1948) The Structure and Function of Communication in Society. In: Lyman, Brian (Ed.) (1948) *The Communication of Ideas*. New York, Harper: 37-51.

Monetary policy and central banking can neither be described by a linear input-output-transmission nor by pure deductive arguments as it is usually defined in traditional models on central banking.²⁴ "Car and driver: (is) a misleading analogy" as Bernanke (2004) claimed of the often used metaphor in central banking theory.²⁵

At this point certain characteristics of coded language should be explained and the term itself defined. What is, after all, a coded language? Where does the meaning of a coded language come from? Is it possible to say that a coded language works (only) under particular circumstances? What can be said about the environment in which a coded language is used? What are the implications of making reference to a coded language? Are language codes in fact rules? What gives meaning to a coded language in fact? It can be said that the meaning of a coded language is rooted in a universal rule or unique or logical structure. Recalling the example of the car and car-driver it is possible to image setting certain limits in order to define the context of car-driving. It is also possible to define it by making a list containing all the elements contained in that context: roads, maps, cars, light, rules of traffic, wheels, steering wheels, spark plug, fuel, etc. A coded language is rooted in a pre-defined system. There should be no vagueness in its meaning because it is deductively linked to the system itself.

A coded language can be explained by a list of all the distinguishing marks or features which provide an invariant context and situation. The meaning of a code is given ex ante, ahead of its use. The meaning is incorporated as a fixed rule which is itself defined independently of changing environment and context. Here we can see the reason why a coded language is free of ambiguity and vagueness. If this premise of non-ambiguity and non-vagueness bears relevance it might seem to be the best method for a central bank to communicate with different agents in the heterogeneous financial markets. The non-ambiguousness and exactness of a coded language should lead to an understanding without being in any way misleading. It also defines the mechanism of understanding in order to avoid a discontinuity of understanding or a discontinuity generated by misleading elements. Therefore, vagueness and non-ambiguity of the meaning in a coded language are excluded by definition.

²⁴ For a critique on traditional model view of central banking see for instance Blinder (1998), Winkler (2001).

²⁵ Bernanke, B. S. (2004) *The Logic of Monetary Policy*. Washington, D.C. <http://www.FederalReserve.gov/boarddocs/speeches/2004/20041202/default.htm>

A coded language, however, is an artificial language which cannot fulfill the genuine task of guiding the market expectations by a central bank. A coded language does not create specific institutional facts or respond to them.

How then could a coded language be a link between actors, including the central bank working *through markets*?

"Monetary policy works *through* the market, so perceptions of likely market reactions must be relevant to policy formation and *actual* market reactions must be relevant to the time and magnitude of monetary policy effects. There is no escaping this" (Blinder 1998: 60).

The functions of language in daily communicative interactions simply cannot be explained by an analogy to a mechanical impulse-resonance. A central bank's talk and communication and its meaning and understanding are not based on mechanical actions and reactions as assumed in the traditional model view of central banking. Moreover, meaning and understanding, as encapsulated in the paradigm »matching deeds to words« are not achievable as mechanical procedure because they are generated through a process of communicative interaction.

A coded language – like the instructions how to use a car or a machine – can in effect only be anchored in an invariant context or environment – for example, regardless of whether one drives on the left or the right, or, to take another example, like the instructions for use of a machine translated into many different languages. The car is itself defined by certain mechanical properties. Instructions on how to understand a coded language in order to get a drivers license demonstrates how the use and understanding of a coded language differs from the everyday language. It makes sense to use a coded language in an invariant environment composed of and indeed designed (by?) using mechanical rules. This generates a certain behavioral pattern which is essential in order to avoid car crashes by establishing a strictly regular order applying to car drivers.

Any approach to the economy as a simplified model or machine overlooks the importance of different interactions and the need of the central bank to influence the expectations-building of different agents in order to achieve its mandate of price stability. The activities of speaking and of decision-making processes are surrounded by uncertainty. Each of the simplified models involving an analogy to a mechanical arrangement derives from the classical model of communication in which language and interactions by the receiving agents should be eliminated. The classical model pictures communication as involving causality between two mechanical impulses. The demand

for a coded language conforms to the demand for behavioral regularity within such an analogical framework.

As the example above indicates, a coded language could probably work within a stimulus-response-mechanism among agents and machines in order to set a machine in motion. However such a stimulus-response-mechanism is not a model to capture and understand the communicative interaction between a central bank and the agents of the financial markets. The analogy of human behavior to a machine misses the point of economic interactions in the financial markets, not only because of the different time horizons but also because of the interdependency of these actions according to monetary policy being worked out *through markets*.

The view of agents set in motion by a coded language like billiard balls is misleading. To understand how 'monetary policy works *through* the market, one needs to acknowledge the processes of perception and the understanding of the central bank's talk and communication *within* markets involving many different market agents. The more a central bank tries to avoid such misunderstandings through a commitment to communication via a coded language the greater the risk will be of generating misunderstanding among market agents.

Indeed, the risks of a coded language are evident. Since market actors tend to look for particular hints in order to make their own decisions, a coded language will in fact increase the problem of the central bank's inflexibility to alter its own decisions.

The assumption underlying a coded language is that the future of financial markets or the economy in general is capable of being conceived with great clarity and less – or indeed no – uncertainty. The coded language appears to open an opportunity of interpretation by following a clear and unambiguous road map on the highway toward financial success. A coded language appears as a sure guide towards the best choice among financial or economic opportunities directly and hence supposes certainty in a world of uncertainty. This is illusory.

From a car-driver's point of view, reaching the desired destination indicates either the success of the way selected or at least its partial success. The expectations addressed towards the use of the coded language in central banking must, however, be disappointed because the language activities of communication, meaning and understanding are a complex task.

In contrary to its assumed beneficial effects, the use of a coded language will in fact create and exacerbate situations of being misled and misunderstood in financial

markets. Coded language is by definition an exact and a non-vague language whereas everyday language is not. Everyday language is indeed characterized by non-exactness and vagueness but, it must be heavily emphasized, not its meaninglessness. Vague terms and concepts are not 'bounded', whereas codes are. However, the boundaries of a coded language do not have any relevance to the shaping and development of monetary policy in practice.²⁶

There is no choice whether to acknowledge the uncertainty of central banking or not. With uncertainty in the landscape, central banking needed to be anchored.

Just as poetry expressed in rhymes by no means leads to greater credibility of the poem and thus to increased ease of memorization, so do axioms and deductive premises define the sense of deductive sentences. Since the projection of mathematical and logical theories or axioms onto the world of experience is beyond the model world, the model view is for this reason first of all a metaphoric approach. Stekeler-Weithofer stated: "Exactness is a property of a model or formal theory and therefore limited in its proper application on real experience."²⁷

Acting means that agents shape contexts and also create new contexts by their ways of acting.²⁸ An important implication regarding the context or situation is first and foremost that any communicative interactions require the use of language as a public medium since private language could neither be used to shape situations and contexts nor create new ones.

The risk of a coded language is that any change in monetary policy action will induce the change of expectations regarding future actions of a central bank. There is no doubt that a coded language can guide reactions in particular directions, e.g. it can induce so called iterative movements. To explain a word requires going back to the language-game itself, which is also changeable. It is important to emphasize that a central bank's pattern of acting structures the particular reality, i.e. the environment and hence the relations of market interactions.

²⁶ See Sainsbury, Mark (1996) Concepts without Boundaries. Inaugural Lecture. King's College, London, November 1990. In: Smith, P./ Keefe, R. (1996) (Eds.) *Vagueness: A Reader*. London.

²⁷ Stekeler-Weithofer, Pirmin (1999) Wie bestimmen Sprachformen den Horizont einer Wissenschaft? In: Wiegand, Herbert Ernst (1999) (Hrsg.) *Sprache und Sprachen in den Wissenschaften. Geschichte und Gegenwart*. De Gruyter, Berlin: 508-532.

²⁸ Kober, Michael (2002) *Bedeutung und Verstehen. Grundlegung einer allgemeinen Theorie sprachlicher Kommunikation*. Mentis Paderborn.

This is of crucial importance for its task in guiding market expectations. A central bank's way of acting creates the normative meaning of sentences. Concepts are embedded in the language game. Not only *times are a changing...* but also *language-games are changing and bringing therefore a change in concepts and the meaning of words*. The meaning does not arise out of a pre-fixed or pre-determined world.

The problem of a central bank's talk based on a coded language is pointed out by Issing:

"Code words can be readily identified and taken into account in market operations; they can reduce uncertainty in the run-up to meetings of the decision making body, and they can help to avoid errors in the short-term planning of operations and curb the volatility of interest rates. However, with the use of such code words, the central bank puts itself under pressure to honor a quasi-promise".²⁹

Karen Johnson, of the Board of Governors of the Federal Reserve System, argued that central banks need first of all to create a "communication language. Currently, they tend to use very few words, often seen as coded language".³⁰ Johnson explained the problems which arise out of the use of a coded language:

"When these words seem to work with the target audience they are used over and again. But then, if the words differ only a little bit from one time to another, they may be mistakenly interpreted as a policy change" (ibid).

The risk of a coded language is that any change in monetary policy action will induce the change of expectations regarding future actions of a central bank. There is no doubt that a coded language can guide reactions in particular directions, e.g. it can induce so called iterative movements. A good example is the well known metaphor of a 'run on the bank' which is, in effect, a self-fulfilling prophecy, and has caused many bank crises. There exists no doubt concerning the dangers of a situation in which coded language may guide mass behavior as the history of communication has shown.³¹

In my view a coded language increases the uncertainty surrounding monetary policy because a coded language does not suit a changing environment. The consensus regarding economics and central bank communication in the literature can be described

²⁹ Issing, Otmar (2005) *Communication, Transparency, Accountability: Monetary Policy in the Twenty-First Century*, St. Louis: the Federal Reserve Bank of St. Louis Review, March/April, Part 1: 65-83 (English Translation of the Thünen Lecture).

³⁰ Johnson in: Blinder/Goodhart et al (2001: 96).

³¹ See Lasswell, Harold D. (1948) *The Structure and Function of Communication in Society*. In: Lyman, Brian (Ed.) (1948) *The Communication of Ideas*. New York, Harper: 37-51. Lasswell, Harold D. (1935) *World Politics and Personal Insecurity*. New York: McGraw-Hill.

in short as "central bank talk matters". The reason *why* talk or communication matters is regularly given by a description of important parts of the transmission process.³²

Whereas the economic data always provides their own ambiguity, the Chairman's remark concerning the empirical findings seems to confirm the uncertainty. The Chairman remains reticent when the data could not be read as a certain unambiguous description. The risk that statements by the Federal Reserve Bank accompanying the interest rate move could lead to some unsettling signals in the long run is evident. With uncertainty in the landscape, central banks – like other institutions – need to be anchored. The uncertainty would be intensified by the use of a coded language. In contrast to a coded language, the use of everyday language – the language in practice – configures a certain context understood by participants of the financial market and the central bank. As pattern of acting and a way of articulation it is impregnated by the changes of the context.

Language, meaning and understanding cannot be anchored in an artificial system. The use of code words or signal words by a central bank does not itself provide a deeper understanding of how and when the central bank is going to take action. This depends on the perception by market participants.

To understand the central bank's deeds and words as a coherent procedure requires one to perceive the central bank's talk or communicative action as embedded in the long run framework of its mandate. It is essential for the use of the everyday language. This usage – the language game – is not independent of the environment, context and facts.³³ It is essential for the language-game that no doubt appears about whether use of language is embedded in the environment.³⁴

Taking into account the communicative interaction between the central bank and the financial market, this given ambient environment is part of the management of affairs in the contemporary world. It is configured by the articulated interactions. Therefore it is appropriate to refer to such a "language-game" to provide a picture of the

³² Chirinko, R.S./Christopher, C. (2006) *Greenspan Shrugs: Formal Pronouncements, Bond Market Volatility, and Central Bank Communication*. Paper presented to The American Economic Association Meetings, January 8, 2006.

³³ Wittgenstein (1978: § 51), *ibid.*

³⁴ Wittgenstein (1979: § 524), Wittgenstein, Ludwig (1979) *On Certainty*. Ed. By Anscombe, G.E.M. and G.H. v. Wright, Translated by Denis Paul and G.E.M. Anscombe, Basil Blackwell, Oxford.

totality of the embedded actions, rules, conventions, implications, interpretation and persuasions of such communicative interactions.

What can be said about the environment? It is composed of people and institutions interacting via these means. It is not a system which can be determined by or defined by deductive reasoning or by purely mechanical elements. It is a 'game' because every participant plays a certain role *by acting*. One is reminded of Shakespeare lines: "All the world's a stage, and all the men and women merely players. They have their exits and their entrances; and one man in his time plays many parts" (As You Like It, Act II, Scene VII). The use of language is a way of acting. Language of the actors is neither primarily addressed to names or signs, nor to things, objects or words. Rather it leads to a coherence of the meaning and understanding in the communicative interactions in that field, framework or context. "Language-game" is an appropriate concept to capture and describe the communicative interactions between a central bank and financial markets. As Wittgenstein explained: "A game, a language, a rule is an institution."³⁵ The notion "language-game" does not mean a language-'play' because language-game is a concept which is coherently connected with working or employing language. In using language, we do not reflect it, we do not contemplate it, we do not interpret, but we are simply involved in the language-game. The language game is the primary thing which gives meaning to the sentence.³⁶

As pattern of acting the language-games are not invariable throughout the time. This is also true for the language games of the Federal Reserve Bank. As pattern of acting and a way of articulation it is impregnated by the changes of the context and environment.³⁷

If one says, for instance, the code employed in a language corresponds to a particular sense or meaning, this does not of itself lead to a meaning and understanding but rather just to substitution. The meaning, implication or interpretation still has to emerge from the interactive process involving all the participants in the communication.

³⁵ Wittgenstein, Ludwig (1983) *Remarks on the Foundation of Mathematics*. Eds. By Wright, G.H., Rhees, R., Anscombe, G.E.M., The MIT Press. Cambridge Massachusetts, London, England: 334.

³⁶ Wittgenstein (1978: § 656), *ibid*.

³⁷ Blinder, Alan S./Krueger, Alan B. (2004) What Does The Public Know about Economic Policy, and How Does It Know It? *Brooking Papers on Economic Activities*, 2004: 1: 327-387.

Where a redirection of the monetary policy is required, a central bank's announcement based on a coded language has, in any case to be explained ex post in every day language. A coded language which has to be explained subsequently in everyday language will not be credible. Moreover this re-interpretation diminishes the credibility of the central bank because its efforts to translate the coded language into the everyday language will fail. The coded language can be seen as a kind of private language. A coded language maintains a sense by itself regardless of any further interactions between the authors, agents or institutions. It is like the traffic light based on the simple rule. A coded language is rooted in a certain system of definition.

Why precisely does a coded language restrict a central bank's methods and possibilities to react immediately and flexibly? If the central bank starts to explain the meaning of its coded language this would be inevitably perceived as a deviation from any prior statements of the central bank.

To sum up this consideration: A coded language relies on particular premises such as unambiguousness, exactness and a bounded concept of words and their meaning. Furthermore the assumption underlying a coded language implies the maintenance of a correspondence of objects with their names and objects seen as non-vague entities or understood through a non-vague ontology, objects as unique, bounded, exactly measurable and true.

The presumption of a pre-given meaning of a word or sentence is however, without doubt problematic since the meaning is rooted neither in internal, mental states (in the intentions of the agents), in the intentions of the agents, nor in invariant situations. The classical view of communication neglects the functions of language and communicative interaction as a principle for organizing and systematizing the ambiguity which cannot be eliminated. The classical view of communication contradicts the modern view of language and cognitive sciences. Language in its function and use cannot be reduced to numbers or labels. The meaning of the language, sentences and words is a result of the language's use in practice. Since the use of a word or a sentence is always embedded in practice and interactions of agents, institutions and in their expectations, goals and desire to be understood, the meaning and the understanding of a word or sentence depends on that contextual framework. This can only be predicted by the question on how and whether a particular word or sentence would be understood in a supposed or expected environment in which the word or sentence has been used.

Using a language is part of an activity (Wittgenstein) or speech act (Searle). Therefore the meaning of a used word or sentence is not fixed. There exist different meanings of a word or sentence or a multiplicity (see Muchlinski 2009, 2008, 2006).

The language or »the language game« is not based on fixed rules, but on

"regularity, on agreement in action. (...) We say that, in order to communicate, people must agree with one another about the meaning of the words. But the criterion for this agreement is not just agreement with reference to definitions, e.g. ostensive definitions – but also an agreement in judgments. It is essential for communication that we agree in a large number of judgments".³⁸

Different uses in varying contexts imply different meanings. How can we obtain the knowledge about how to use the word? Mostly, we use a particular word without asking ourselves if we understand it. The meaning of a word or sentence respectively does not primarily emanate from a prior – more particularly, from *an apriori* - interpretation. If the financial market starts to interpret the utterance of the Federal Reserve, uncertainty about the meaning of the central bank's talk has already been achieved in the market. In the case of raising doubts on the meaning of a sentence in practice the interpretation makes sense. An interpretation does not lead to additional meaning of the sentence in context because the interpretation itself is part of the situation in which the sentence has been used.

The description of a debate between the central bank and the agents of financial markets is understandable only within its particular history. Several current research papers to which I have referred here provide evidence of this. Such an approach evolved within the dimension of a general history of economic thought and attempts to discover the historical realm of institutions, the interdependence of economic processes and the varieties of social relations and interactions which are themselves the basis for an evolution of discursive methods and structures.

If central banks try to act on the basis of a coded language they would adapt a given meaning of sentences independent of the context and the culture. This would contradict sharply the continuity of *changing times*, contexts and environments and therefore information as being subject to relationship. As current debates in central banking explain different cultures also generate different ways of understanding and conceptualizing transparency and communication. The debates about the need for a

³⁸ Wittgenstein, Ludwig (1983) *Remarks on the Foundation of Mathematics (RFM)*. Eds. By Wright, G.H., Rhees, R., Anscombe, G.E.M., The MIT Press. Cambridge Massachusetts, London, England: 342-343.

disclosure policy outline the problems regarding the status and democratic surroundings of a central bank. The need for a disclosure policy has to be treated in a different manner. Regardless of how the mandate of a central bank is precisely established in different countries, the imperative to implement a successful monetary policy to achieve price stability has been accepted as an 'iron law' of central banking in the economy. This position that the meaning is given by a mental state immediately collapses if we acknowledge that language is not a veil of thought i.e., it is not neutral towards thoughts. Language does not reveal objects or ontological things like central banks, money, institutions. "And to say 'if it did not exist, it could have no name' is to say as much and as little as: if this thing did not exist, we could not use it in our language-game" (Wittgenstein 1978: § 50).

A coded language is meaningless regarding monetary policy strategy and the mandate of a central bank. As Wittgenstein outlines:

"We often *compare* the use of words with games and calculi which have fixed rules, but cannot say that someone who is using language *must* be playing such a game. – But if you say that our language only *approximate* to such calculi you are standing on the very brink of a misunderstanding. For then it may look as if what we were talking about were an *ideal* language. As if our logic is so to speak, a logic for a vacuum. – Whereas logic does not treat of language; and as if it took the logician to shew people at last what a proper sentence looked like" (Wittgenstein 1978: § 81).

An ideal language is not appropriate for the need of understanding: "When we talk of language as a symbolism used in an exact calculus, that which is in our mind can be found in the sciences and in mathematics. Our ordinary use of language conforms to this standard of exactness only in rare cases."³⁹

Any demand for a coded language implies the elimination of the arbitrariness of colloquial language. This would necessarily also imply depriving the language of its function. As was outlined, a word possesses multiple characters regarding different contexts and uses.

Blinder/Goodhart et al (2001) argue that central bank talk and communication have the role of mitigating an unstable environment and uncertainty, of diminishing volatility and therefore high risk. They refer to an important feature of language within contexts and practices. The use of everyday language diminishes "uncertainty" because it is anchored in those contexts and environments. The new paradigm of central banking »matching deeds to words« is not compatible with a coded language approach.

³⁹ Wittgenstein (1958: 25) *Preliminary Studies For The 'Philosophical Investigations', generally known as The Blue and Brown Book*, Basil Blackwell Oxford.

Language matters as 'sens pratique', but not as 'scholasticism'.⁴⁰ According to modern view of language theory, language is not only a vehicle of thoughts. Language is not a neutral thing.

Vagueness is characteristic of language, which is a social phenomenon. Trying to express a central bank's or central banker's statement in formal language would preclude common understanding. As empirical evidence on central bank transparency and information policy strategy documents, the language a central bank has chosen to express or explain its monetary strategy may differ considerably across countries and central banks.⁴¹

Nevertheless their need to focus on special information and to investigate certain economic developments, i.e. the monetary transmission process which differs greatly between countries, or prices of goods markets, currencies, the rate of economic growth, etc., furthermore to create and communicate certain data according to an economic environment describes clearly their role as a monetary institution. As monetary institutions, they do have comparable monetary strategies in order to achieve the effectiveness of monetary policy.

Regarding the every day language Wittgenstein emphasised:

"When we talk about language (words, sentences, etc.) I must speak the language of every day. (...) You say: the point isn't the word, but its meaning, and you think of the meaning as a thing of the same kind as the word, though also different from the word. Here the word, there the meaning. The money, and the cow that you can buy with it. (But contrast: money, and its use)."²¹

Conclusion

I have thus explained why both of the concepts "matching deeds to words" (Blinder) and "we do what we say" and "say what we do" (Issing), are not encapsulated in a logical semantic or in deductive reasoning but rather in a way of communicating action. The use of the everyday language has its reference in both concepts which refer to the means of acting and not to a coded language. Credibility and transparency refer to the central bank's *practice*, not to abstract premises. Achieving transparency and

⁴⁰ Gebauer, G. (2005), 'Praktischer Sinn und Sprache', in Colliot-Thélène, C., E. Francois and G. Gebauer (eds) (2005), *Theorie and Praxis. Pierre Bourdieus Werk in Frankreich und Deutschland* (Frankfurt am Main: Suhrkamp).

⁴¹ See Lambert, Richard (2006) Central Bank Communications: Best Practices in Advanced Economies. At the IMF Sponsored Regional Seminar on Central Bank Communications, Mumbai, 23. January 2006, <http://www.imf.org>

credibility can only be defined as a degree of transparency or degree of credibility because both concepts refer to the means of acting. Therefore the meaning and understanding of a central bank's communicative interaction arise as *sens pratique*. As the use and meaning of words cannot be separated from context, the development of a 'language code' of a central bank is not desirable.

I have tried to elaborate further reasons to support the "language analogy" which should replace the "car analogy" in central bank literature. I have emphasized several aspects which describe the changing environment of the central bank. As the meaning and understanding cannot be separated from context, a coded language would in fact increase the uncertainty which surrounds the central bank's action. Transparency and credibility are the result of verbal and non-verbal interactions and of reciprocal relationships between a central bank and the market regarding changes in market variables and the perceived reaction by the central bank, market and public.

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