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The Power of Beliefs: The Concept of Placebo and Placebo Effects in Politics and History

Placebos and placebo effects have been studied intensively within the last decade in the field of medicine. The start of placebo research dates back at least to World War II, when Henry Beecher, an anesthesiologist, noted that severely wounded soldiers in the combat zone asked for analgesics much less frequently than patients with similar injuries in civilian hospitals (25% vs. 80%). Beecher explained this difference by a psychological factor, namely the anticipated consequences: to the soldiers, being wounded meant to have survived, to be removed from combat zone, to be treated well; whereas civilians were more worried about their social and financial situation. This observation prompted Beecher to study the psychological mechanisms of placebo analgesia more thoroughly. In 1955 he published his seminal paper “The Powerful Placebo,” which can be considered the starting point of systematic placebo research.

“Placebo” has been defined as “any therapy or component of therapy that is deliberately used for its nonspecific, psychological, or psychophysiological effect, or that is used for its presumed specific effect, but is without specific activity for the condition being treated.” The “placebo effect” is the “psychological or psychophysiological effect produced by placebos” (Shapiro and Morris 1978, 371).

Placebo analgesia is the best explored type of placebo effect. The biological mechanism of placebo analgesia was first discovered in 1978 by showing that placebo analgesia could be antagonized by naloxone, an opioid antagonist, which indicated an activation of the endogenous opioid system by placebo-induced expectations (Levine et al. 1978). Several neuroimaging studies in the past ten years have confirmed this finding (Meissner et al. 2011). The placebo effect, however, is not restricted to the field of pain. Further studies have shown that motor improvements in patients with Parkinson’s disease who received a placebo are mediated by the release of another neurotransmitter in the brain, namely dopamine, and placebo effects in depression work via activation of prefrontal cortices, which play a role in anticipation and expectation (Benedetti et al. 2005). Finally, placebo interventions have been shown to affect stomach movements, blood pressure, lung function, and even the coronary arteries

(Meissner 2011). Such effects can display a high degree of specificity, suggesting the involvement of specific subsystems in the brain that mediate target-specific placebo effects. Thus, placebo research has demonstrated that the expectation of receiving a potent treatment can have real physiological consequences, even if the patient receives inert treatments. Notably, in the same way as positive expectations can benefit the patient, negative expectations can have harmful effects—a phenomenon referred to as the “nocebo effect” (Colloca and Finniss 2012).

Can the concept of placebo and placebo effects be transferred to social behavior or to the process of political decision making, and could such effects have thus influenced the course of history? In the following, we will present a few examples where some of the psychological mechanisms of placebo and placebo effects apparently played a role in politics and history.



Figure 1:
Visual mimicry as
seen in the rear
view of the beetle
pachnoda sinuata.
(Francois Jordaen)

Our first example concerns the use of placebos as dummies to achieve a certain psychological effect. The general usefulness of deceptive behavior is already illustrated by nature. For example, some animals make use of visual mimicry, such as the face-like markings on some insects, to appear much more powerful than they are (fig. 1).

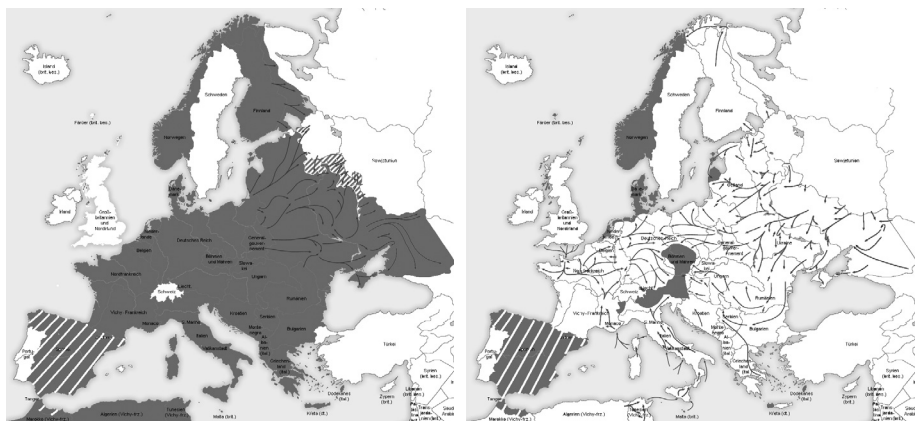
Dummies are frequently applied in military conflicts as well. For example, the use of fake tanks as decoys to deceive the enemy is a long-standing practice in warfare that continues up to the present. Decoy tanks were first introduced during World War I and became a common appearance in World War II; the German general Rommel was especially famous for using wooden dummy tanks during the desert war in northern Africa. The US Army employed these unusual weapons, too: the so-called “ghost army,” which was part of the Allied operations in Normandy in June 1944, consisted of hundreds of inflatable tanks and a collection of sound recordings which simulated advancing combat units (fig. 2). During the Kosovo War, the Serbian troops misled the reconnaissance of the NATO forces with modern inflatable, heated dummy tanks. The goal of using such dummies is clearly to achieve a certain psychological effect, namely to bluff and to impress the opponent and to prevent a counterattack.



Figure 2:
The “Ghost Army”
of the US military
forces in June
1944. (Work of US
Government)

Our second example refers to the expectation of a specific event as one of the underlying mechanisms of placebo effects. In the case of placebo analgesia, for example, the patient has learned to expect pain relief from the intake of a drug described as a pain killer. Similarly, expectations of pain worsening can lead to an increase of pain. It has been shown that treatment expectations and related effects can be enhanced by previous relevant experience, for example, by the intake of a potent pain killer. An example showing that expectations shaped by experience also play a pivotal role in history is the attitude about the survival of the Franco regime after World War II. The Spanish dictator Franco was considered by the Allies to be an intrinsic part of the Fascist order in Europe. Therefore it was inconceivable to the British and Americans that Franco’s Spain would survive as the only fascist regime after the downfall of the two main fascist powers, namely Germany and Italy and their satellites. Because of this conviction, the governments in London and Washington repeatedly refused to intervene actively in Spain, although plans to overthrow Franco were developed on several occasions during the war. However, the Franco regime did not show any signs of disintegration towards the end of the war; on the contrary, it actually seemed to become stronger internally (fig. 3 and 4). Nevertheless—and, from our point of view, this was due to persistent expectations—political observers regularly came to the conclusion that the end of the regime was a matter of days, weeks, or, at most,

Figures 3 and 4:
Europe in 1941
and 1945. Franco's
Spain (diagonal
shading) remains
stable while the
rest of Europe is
liberated from the
domination of the
Axis powers.
(Courtesy of the
author)



months. We think that it was mainly this false expectation that led to inaction in spite of the insistent pleas for intervention brought forward by the Spanish opposition. In terms of placebo mechanisms, the downfall of the other fascist powers made the Allies expect that the Franco regime would also soon come to an end, and this expectation obviously affected the course of history: Franco ruled until 1975.

Our last proposed link between placebo and history involves the strong appeal of therapeutic promises. Suffering patients react strongly to healing promises of any kind, even if they come from a quack. This is reminiscent of the phenomenon of “political religions,” a concept used for the analysis of totalitarian regimes. It was first established by Eric Voegelin in 1938 with regard to the Hitler regime and was introduced into the historiographical debates at the beginning of the 1990s by historians and political scientists such as Hans Maier and Emilio Gentile, who applied it to other regimes as well, in particular to Stalin’s Soviet Union and Mussolini’s Italy (Maier 2004; Gentile 2006). Political religions are characterized by a charismatic leadership with messianic tendencies and a strong hierarchical political organization. Further characteristics are a consistent belief system which aims to impose a specific symbolic understanding on the world, as well as fatalism, i.e., the conviction that the ideology will prevail forcefully and permanently. Also implicit to the concept of political religions is a strong therapeutic promise, as is clearly reflected in contemporary artwork of “messianic leadership” (fig. 5).

In conclusion, the psychological mechanisms underlying placebo effects are not necessarily restricted to the field of medicine, but can be found in history as well. The intentional use of dummies to appear more powerful than one actually is, and thus to induce a specific psychological effect, seems deeply embedded in human behavior and resembles mimicry in animals. False expectations, such as the anticipated imminent end of the Franco regime, can create their own reality and thus influence political decisions and the course of history. The phenomenon of political religions shows that the human tendency to react to healing promises has been repeatedly instrumentalized in the field of politics. These historical aspects have been studied intensively in historiography and especially in cultural and psycho-historical studies. We think that the concept of placebo and placebo effects can be successfully transferred to these historical contexts.



Figures 5:
Artwork depicting
Hitler as a messianic leader. (German Federal Archives)

References

- Beecher, Henry K. 1955. "The Powerful Placebo." *Journal of the American Medical Association* 159: 1602–06.
- Benedetti, Fabrizio, Helen S. Mayberg, Tor D. Wager, Christian S. Stohler, and Jon K. Zubieta. 2005. "Neurobiological Mechanisms of the Placebo Effect." *Journal of Neuroscience* 25 (45): 10390–402.
- Colloca, Luana, and Damien Finniss. 2012. "Nocebo Effects, Patient-Clinician Communication, and Therapeutic Outcomes." *Journal of the American Medical Association* 307 (6): 567–68.
- Gentile, Emilio. 2006. *Politics as Religion*. Translated by George Staunton. Princeton: Princeton University Press.

- Levine, Jon D., Newton C. Gordon, and Howard L. Fields. 1978. "The Mechanism of Placebo Analgesia." *Lancet* 312 (8091): 654–57.
- Maier, Hans, ed. 2004. *Totalitarianism and Political Religions*. Translated by Jodi Bruhn. New York: Routledge.
- Meissner, Karin. 2011. "The Placebo Effect and the Autonomic Nervous System: Evidence for an Intimate Relationship." *Philosophical Transactions of the Royal Society B: Biological Sciences* 366 (1572): 1808–17.
- Meissner, Karin, Ulrike Bingel, Luana Colloca, Tor D. Wager, Alison Watson, and Magne A. Flaten. 2011. "The Placebo Effect: Advances from Different Methodological Approaches." *Journal of Neuroscience* 31 (45): 16117–24.
- Shapiro, Arthur K., and Louis A. Morris. 1978. "The Placebo Effect in Medical and Psychological Therapies." In *Handbook of Psychotherapy and Behavior Change*, edited by Allen E. Bergin and Sol L. Garfield, 369–410. New York: Wiley.
- Voegelin, Eric. 1986. *Political Religions*. Translated by T. J. DiNapoli and E. S. Easterly III. Lewiston, NY: E. Mellen Press.