Anomalous correlations between mental intention and remote traffic density with direct feedback over Internet

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Abstract
Unselected users of Internet did more than 350 sessions from over 200 locations in the world in which they attempted to 'influence' the traffic density in front of the University of Amsterdam. They got direct feedback in the form of pictures of the remote traffic. In contrast with the explicit goal to increase the traffic in the target pictures the traffic density decreased in those pictures (Wilcoxon signed ranks z-value = -2.2; p< 0.03). The traffic elements bicycles (z=-1.44), cars (z=-2.55) and trams (z=-1.53) contributed to this opposite effect while the trend for persons went into the 'wished for' direction (z=1.49). None of the measured personality characteristics turned out to be a significant predictor, although 'openness' reached a marginal level of significance (tied p-value: 0.056) and showed a remarkable consistent trend across the 4 levels, with the closest subjects scoring the worst. Possible methodological weaknesses and theoretical relevance are discussed.

Introduction
Correlations between intentional states and the behavior of remote target systems have been studied extensively during the last 60 years. Meta-analyses of dice experiments (Radin & Ferrari, 1987) and RNG experiments (Radin & Nelson, 1989) suggest that measurements on these target systems show distributions biased into the direction 'wished for' by the observer of these measurements. A survey of experiments with biological target systems did yield similar results (Braud & Schlitz, 1991). The general conclusion by the latter researchers is that it appears that most biological systems may be used as a target in this type of experiments, as long as the measurements taken under control conditions do show some variance.

The distance between the subject and the target system may range from less than a meter to 50 meters. In a few experiments, like in the famous series on remote hypnosis by the Russian investigator Vasiliev (Vasiliev, 1963) , larger distances were explored.

If the only requirement for target systems is that there is some intrinsic randomness in the system, then it may follow that traffic-density may be a suitable target although the objects involved are macroscopic (and the source of the apparent randomness may be non quantum mechanical). Indeed, in 2 experiments the Austrian researcher Gruber used some traffic-indicator as a target and even in time displaced conditions strong effects were found (Gruber, 1980).

In the present experiment a traffic situation in front of the University of Amsterdam was the target to be 'influenced'. Participants in this study were surfers on the Internet who ran into this experiment by accident or who learned about it through several links on

parapsychological pages on World Wide Web. The World Wide Web was first used as medium for a parapsychological experiment a year ago and this approach had shown promising results (Bierman, 1995).

The distance between target location and the subject in these web experiments potentially varies between a few 100 meters and a few thousand kilometres. The major research question in the present series was whether anomalous correlations between the intention of the participant and the behavior of the Amsterdam traffic could be established. This is an interesting issue, because a review of mass experiments in parapsychology indicates that mass-experiments generally are rather unsuccessful (Milton,1995). This could be due the unattended nature of (i.e. less experimenter control in) mass experiments, which may draw another (maybe less commited) subject population.

In the current experiment the subject was requested to fill in an electronic form before actually activating the experiment. This form asked for artistic interests, the personality factor openness, belief in psychokinesis and mood, much like in the WWW precognition experiment in which we found suggestive evidence for specific subject characteristics that were predictors for success in this unattended situation.

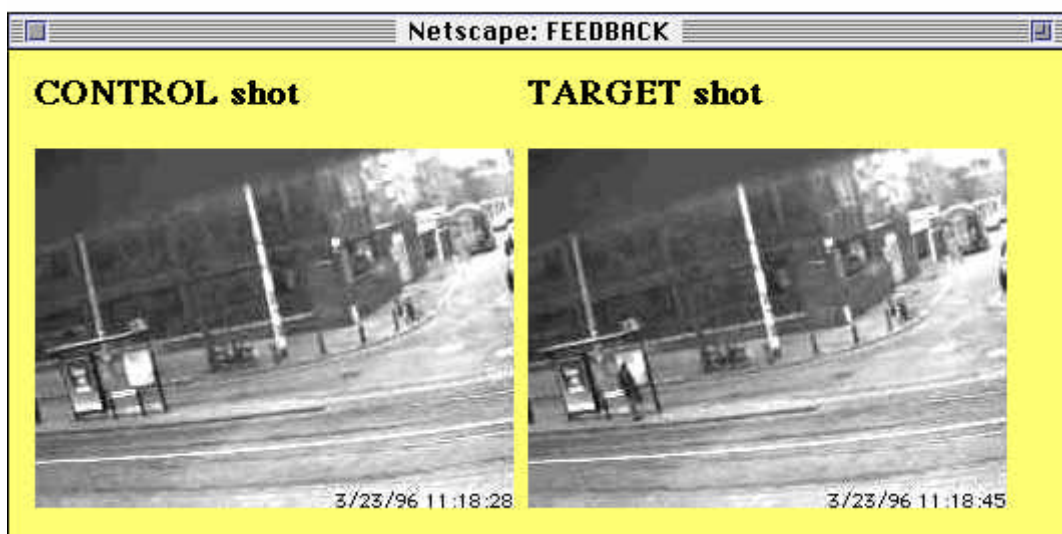**Description of the experiment from the perspective of the subject**
On the PK-experiment page (see http://www.psy.uva.nl/anomal) there is a short introduction to the experiment (figure 1) giving the subject a description of the target system to be 'influenced', the influencing direction, and the scoring rule.
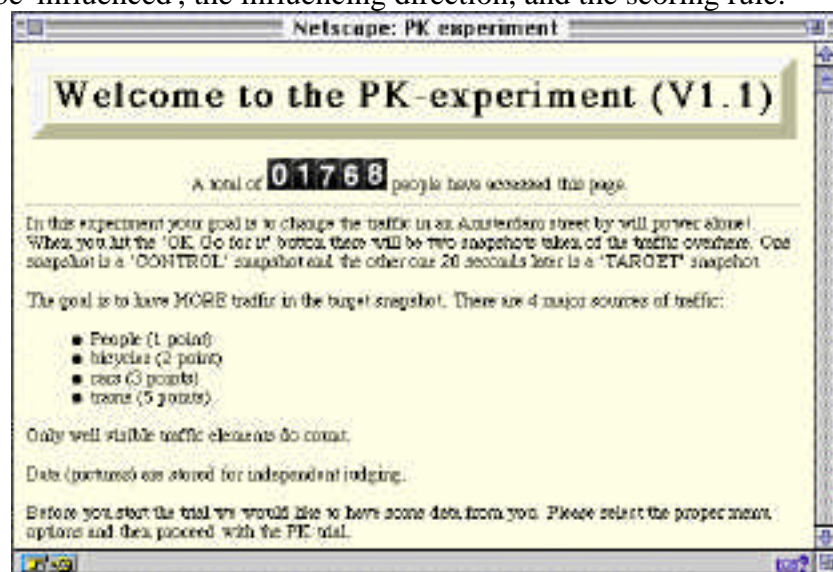
The subject is explained that as soon as he/she hits the 'GO FOR IT' button a camera at the university will take a snapshot, wait about 20 seconds and take another snapshot, one being the target snapshot, one being the control snapshot. The goal is to have more traffic on the target-snapshot according to a scoring rule, which says that persons count as one point, bikes for two, cars for three and trams for five point. Both snapshots will be returned to the participant so that the participant may see for him/herself if the trial was a success.

Figure 2

To this introduction an electronic form (figure 2) is appended, on which the subject through pull-down menus can indicate how open he/she considers him-/herself to be, what his artistic interests are, whether he/she believes in the phenomenon of psychokinesis and what the current mood is. There are only a limited number of questions and alternatives because surfers on the Internet may loose interest if they have to fill in long questionnaires. The question on the state of consciousness, which was a good predictor of success in the WWW precognition experiment, was left out because it was felt to be not so relevant in a PK type of experiment.

After having filled in the form and optionally an e-mail address the subject is requested to relax, take a deep breath and hit the 'GO FOR IT' button. After about 20 seconds the subject gets feedback in the form of two pictures (Control on the left and Target on the right side of the screen; figure 3).

Figure 3

Description of the experiment from the perspective of the software
As soon as the subject hits the 'GOFORIT' button the information on the form is sent to the universities WWW server and decoded. Apart form the information given by the subject the time/date and the clients machine IP number are stored. This information allows for later determination of the location of the subject and the local geomagnetic activity. In the background of the server a utility is running that takes snapshots every 15 seconds. It stores the snapshot in a picture file (which, as long as no sessions are done, is overwritten every 15 seconds). When the subject session data are received, the current picture is moved to another directory (to be analysed later). This is either a control picture directory or a target picture directory. The pseudo random decision is seeded on the basis of the computer clock. The server is then waiting for another picture file to be generated by the background snapshot application. When the new file appears it is also moved to the appropriate directory and a return page is constructed containing links to the two pictures.
The subject is unaware of the fact that the first picture actually already exists at the moment the 'GOFORIT' button is hit.

Scoring of the pictures
The pictures were scored by a student who was unaware of the nature of the experiment. For each picture the number of persons, number of bikes, and number of cars on the picture are counted separately. In cases of doubt the item is not counted (this occurs for partial items on the edge of the picture).

Dependent variables
The main dependent variable in this study is the traffic density (TD) operationalized by:

$$TD = \#persons + 2 * \#bicycles + 3 * \#cars + 5 * \#trams.$$

The contribution of separate classes of traffic elements are evaluated by using their straight count as the dependent measure.

Independent variables
At the time of the submission of this paper the participant related variables, openness, belief, mood and artistic interests were explored. The variables distance and geomagnetic activity are planned to be analysed as potential predictors of success in this psi task.

Hypothesis
There is only a single hypothesis:
There will be a difference in traffic density in the control and the target pictures.
Planned explorations deal with the predictive value of the other independent variables.

The hypothesis will be tested by the nonparametric Wilcoxon Signed Rank test because the distribution of TD scores is not normal.
The explorations of the predictors will be done by the nonparametric Kruskal Wallis test.

Results
225 Pilot sessions were run from may 1995 till September 1995. For these sessions the control picture was always first and the target picture second. This was a major methodological weakness, for in combination with trends in traffic density any difference between the scores in the control and the target pictures might be explained normally. The software in that period was also slow and in many cases the feedback was not completed. Further analysis of these data was therefore postponed.
From October 12 till December 5, 363 sessions were done (after elimination of the test & demo sessions done by the author and all indicated as *demo* or *test* in the e-mail field).

The number of locations involved was 201, where from several locations many sessions were done. One location contributed as many as 11 sessions.

Table I gives the results for the main hypothesis (column 2) as well as for the explorations of the separate traffic elements. It can be seen that for nearly 70% sessions there was no difference at all. For the remaining 112 sessions 42% of the target pictures had a larger TD than the control. The difference is significant with a corresponding z-value of -2.21 ($p<0.03$; two tailed).

Table I: Results of Wilcoxon Signed Rank test

Ranks	TD	persons	bicycles	cars	trams
CTRL > TARGET	65	32	14	28	14
TARGET> CTRL	47	44	9	13	7
effect size (%)	42%	58%	39%	32%	33%
Z-score	-2.21*	1.4 9	-1.44	-2.56*	-1.53

From Table I it can be concluded that this significant missing is caused by the contributions of bicycles, trams and cars, while there is a marginal effect for persons in the 'wished for' direction.
If the artefacts are taken together, the effect size, which is defined as the percentage of the cases where the goal was achieved, is: 31% with a corresponding z-value of -3.15.

The exploratory analyses with mood, belief, artistic interest and openness as potential predictors yielded a marginal effect for openness (table 2) and nothing for the other variables.

Table 2: Mean ranks for the factor Openness

Openness-value	N	mean TDtrgt-TDcntrl	mean rank
Very Open	62	0.2	136
Open	121	-0.1	149
A little closed	104	-0.5	161
Very closed	16	-0.8	180

The Kruskal-Wallis test yielded a 'H corrected for ties' of 7.559 (p = 0.056). The mean ranks indicate that the very closed subjects did contribute mostly to the missing effect. In fact the Very Open subjects did score non-significantly in the wished-for direction.

Discussion

The over all missing is a puzzling phenomenon especially given the contribution of the different traffic elements. The results should however be observed with some scepticism. The hand scoring, even in an explicit blind condition, remains a weak point. The student may certainly have guessed that there were two conditions because the picture files were systematically from different directories and had different naming conventions. In the future the person interacting with the judge should also be blind and the material should be presented for scoring in a non systematic way. Also the border of the picture scoring procedure should be formalised because it is for these areas that the judge has some subjective liberty. Nevertheless the fact that effects for persons and artefacts (bicycles/cars/trams) were opposite might indicate that there was no systematic bias in the judging.

Another issue that should be considered is the fact that there may have been some dependencies between the traffic elements contributing to the TD measure. For instance the tram may visually screen the presence of persons. It could be that dependencies might explain the opposite effects although we do not see a direct feasible explanation.

If the current findings are of a paranormal nature then the difference between person and artefact effects may be explained by the perceived impossibility of the task to influence traffic at a remote location. However since 'belief' is not found to be a predictor in the current experiment this 'explanation' seems also rather farfetched.

From the theoretical perspective the current results do certainly do not allow the conclusion that it is possible to 'influence' traffic at a remote location. Although the experiment is known as the WWW-PK experiment it is obvious that the subject has every opportunity to augment his decision to 'GOFORIT' by using precognition (May et al, 1995). The present experiment therefore is unable to contribute to the solution of the discussion about psychokinesis versus DAT as the explanation for anomalous correlations in these type of experiments. One way to approach that problem is to investigate the performance as a function of time that the subject waits between finishing the form and hitting the 'GOFORIT' button. Given new developments on Internet, which allow for processing at the clients machine, this may be possible in the near future.

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