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ASSOCIATION RÉGIE PAR LA LOI DE 1901 déclarée à la préfecture de l'Isère sous le n° 0381031603 APE : 804D

SIRET: 487 738 353 00019

Experimental Protocol: Dowsing

Introduction

Francis Gatti, president of the CASAR association and webmaster of the http://perso.orange.fr/casar website, carries several samples of a wrench that, according to him, went through a "poltergeist" (dematerialisation, rematerialisation and spontaneous movement) phenomenon. Acting out of curiosity, Mr. Gatti passed on several samples of this wrench to various dowsers, whose reports expressed surprise at the exceptional "vibratory rate" of these pieces. According to said reports, the samples' "vibratory rate" exceeded 20000 bovis units. At Mr. Gatti's proposition, the OZ set up a protocol to verify if the dowser were indeed capable of identifying these samples amongst 10 other metal samples. As the protocol unfolded, Mr. B, dowser, suggested conducting a series of trials using a sample of earth soil he provided himself, and with which he had the habit of working. This sample, taken from an alleged UFO landing site in Marcilly, was also possessed of a particularly high "vibratory rate". The experiment occurred at Argenton-sur-Creuse, on the 17th and 18th of March 2007.

² The bovis scale is a unit of measurement used in radiesthesia. See: http://renaud91.free.fr/Radiesthesie/fr/quelquesDefinitions.html.

¹ Further reading: "Lorsque la maison crie", by Sylvain Michelet, 1983, Robert Laffont

38000-Grenoble

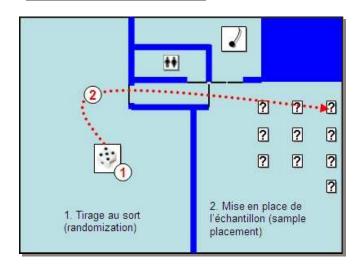
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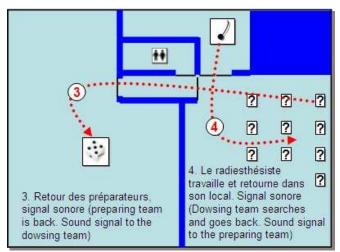
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I. Experiment Protocol





Hypothesis to validate

A dowser can identify, between 10 different samples of identical material, the sample provided by Francis Gatti, which was supposed to have gone through a spontaneous movement phenomenon (a.k.a. "poltergeist" phenomenon).

Definitions

- In the protocol below, the "poltergeist sample" refers to the sample to be identified.
- A "trial" is an attempt at identifying the above sample among 10 others.
- A "series" is an uninterrupted sequence of trials. In this protocol, several series, each with a varied number of trials, may be attempted.

Required material

- 1 "poltergeist" sample
- 9 "non-poltergeist" samples of similar size and mass, made of metal
- 10 boxes, numbered from 0 to 9
- 1 sound signal
- 3 envelopes
- The dowser shall use two rods of metal, 70 centimetres long, or a pendulum.

Number of required persons: 5

- 1 dowser (RD)
- 2 assessors (AS1, AS2)
- 2 preparers (RM1, RM2)

One team, comprised of RM1 and RM2, will be referred to as "preparing team". A second team, comprised of AS1, AS2 and RD, will be referred to as "realisation team".

Parameters:



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- Material used for the boxes: paper
- Instruments used by the dowser: 2 metal rods (length: 70 cms), pendulum
- Estimated success rate: "superior to a performance achieved by luck"
- Number of trials to perform: unknown
- Required time per trial: unknown
- Total time of protocol: unknown
- Minimum space between two boxes: 2 metres and 10 centimetres.

Preparation

- 1. We verify that the sound signal works properly.
- 2. We align 10 numbered boxes, spaced by a minimum of 2 metres 10. 2 metres is the minimum distance below which the dowser considers that the neighbouring sample could interfere with the measurement.
- 3. Calibration: at the beginning of the experiment, the dowser measures all of the samples to be used in the protocol and notes, if he wishes, the corresponding values of each. At any time during the experiment, he may ask for a recalibration of his instrument. In this case, the two assessors empty the boxes of their content, a white test (without blind, see below) is made and the trial is not taken into account in the calculation of the results.
- 4. White test: we have one "poltergeist" sample in one of the boxes and one "non-poltergeist" sample in an adjacent box. The dowser is aware of which sample is under each box. He verifies that the conditions of the experiment do not influence the quality of his performance and that the measurements he records match with each of the samples used. The dowser may also indicate any area of the room which, for any reason, do not suit his practice. These areas are excluded during the placement of the various samples.
- 5. Each copy of each document given to the participants of the experiment must be named and signed by its holder.
- 6. RM1 and RM2 randomly draw a number between 0 and 9, 25 times. We thus obtain a random series of 25 numbers such as 3983478093876..., in 2 copies.
- 7. RM1 and RM2 put both copies of the drawn result (above) into two sealed envelopes. RM1 and RM2 place a copy of the draw in the experiment room at the dowser's attention, keeping the other copy. They then set up the boxes for the first trial. Using a sound signal, RM1 and RM2 alert the protocol realisation team that everything is in place. During the first trial, the dowser picks up the envelope in company of the two assessors before starting his measurements.

Realisation

Attention: to respect the double blind, there must be no contact between the preparation team and the realisation team during the trials, except with the sound signals formalised in this document. Other than the preparation team, nobody must touch the boxes after the experimented has started.

For each trial:

- 1. RM1 and RM2 go and place the "poltergeist" sample in the box corresponding to the number drawn (In the above example, they would place the sample under the box no. 3 for the first draw, under the box no. 9 for the second draw, under the box no. 8 for the third draw, etc.). They put the 9 "non-poltergeist" samples under the other boxes.
- 2. RM1 and RM2 each note, on a sheet numbered from 1 to 50, in which box the "poltergeist" sample was placed, then they withdraw.
- 3. RM1 and RM2 alert the realisation team that everything is in place using a sound signal.



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- 4. The realisation team enters the room. The dowser, attended by his two assessors, silently indicates under which box he detects the signal whose measurement corresponds to the "poltergeist" sample.
- 5. The assessors note, on sheets numbered from 1 to 50 (one sheet for each assessor), the number corresponding to the indicated box, then the team withdraws.
- 6. The realisation team alerts the preparation team that the trial is finished using a sound signal. Back to point 1.

Temporary protocol interruption:

- 1. The team responsible for the interruption places all the documents in a large sealed envelope labeled with the number of the series (Series 1, Series 2) and alerts the other team by repeating the sound signal 3 times.
- 2. The other team places all of the documents they are holding in a large sealed envelope labeled with the number of the series.
- 3. The two teams meet.
- 4. Both large sealed envelopes are stored in a safe under lock and key. The safe is entrusted to the preparation team and its only key is entrusted to the realisation team. If an OZ representative is holding the safe, the dowsing team must hold the key, and vice-versa.
- 5. At the end of the interruption, the experiment is resumed at the "protocol preparation" phase (see above), point 6 (random draw).

When the last trial is concluded, the realisation team alerts the preparation team with a sound signal repeated thrice. The 5 people gather to proceed with the tally.

Results tally

- 1. We verify that the copy of the random draw held by RM1 and RM2 is identical to the one inside the envelope given to the dowser. If this is not the case, the protocol is cancelled and the results are not tallied.
- 2. We verify that, for each trial, the placement of the "poltergeist" sample as noted by the preparation team matches the one previously determined by the random draw. If this is not the case, the protocol is cancelled and the results are not tallied.
- 3. We verify that, for each trial, there is no discrepancy between the box numbers noted by the two assessors. In case of discrepancy, the trial is not taken into account during the tally.
- 4. We compare the box numbers noted by the assessors and those randomly drawn (i.e. we compare the indications of the dowser against the actual placement of the sample to be identified). For each trial, we note "1" on the sheet of results when the two numbers match (success), "0" if they do not match (failure).
- 5. We add up the total number of successes and we write it down at the bottom of the sheet of results. We verify if the result is statistically significant (the hypothesis is validated), or if it is not statistically significant (the hypothesis is invalidated). For the details, see the "Statistical analysis" paragraph below.
- 6. The sheet of results is signed by the 5 protocol participants.



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II. Experiment results

3 independent experiments have been conducted:

1st experiment:

Sample used: soil from a UFO landing site at Marcilly.

Dowser: Mr. B. Trials: 10 Successes: 2

Minimum number of successes expected to consider the experiment a success (with 1% criterion): 5

The result matches a performance of random chance

2nd experiment:

Sample used: Wrench, Hubert Garage

Dowser: Mr. R. Trials: 7 Successes: 1

Minimum number of successes expected to consider the experiment a success (with 1% criterion): 4

The result matches a performance of random chance

3rd experiment:

Sample used: Wrench, Hubert Garage

Dowser: Mr. B. Trials: 32 Successes: 4

Minimum number of successes expected to consider the experiment a success (with 1% criterion): 9

The result matches a performance of random chance



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III. Statistical analysis of the results

1st experiment:

Experiment data:

Probability of success by random chance for one trial: one out of 10 (p = 0.1)

Number of trials in the series: 7

Number of successes: 1

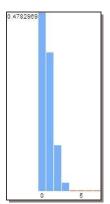
Decision criterion: a result considered to be extraordinary has less than a 1% chance of being reproduced.³

Type of test: unilateral.4

What can we conclude?

If the number of successes is 3 or lower, the results are considered normal. This means that the probability of randomly obtaining at least 4 successes out of 7 trials is inferior to the 1% criterion (in this case, 0.273%). The expected average result is of 0.7 successes for 7 trials.

The obtained result (1 success out of 7 trials) can thus be considered **normal** with the selected criterion. Indeed, the probability to get this result randomly, or more, is superior to the 1% criterion (in this case, 52.17%).



This graphic displays a histogram of how the probability of having k successes varies according to k. The values of k are shown on the x-axis and the normalised probability of the event on the y-axis. Only the value of the maximum probability is indicated on the y-axis. The extraordinary results, according to the selected criterion, are in red, while the normal results are in blue.

We can never completely eliminate the hypothesis that a result is the product of random chance, even if the probability is very weak. In practice, we arbitrarily set a decision criterion to reject the hypothesis of random chance. For example, for a 1% criterion, we define a normality zone in which at least 99% of randomly obtained results belong. The results obtained outside of this zone are then considered as extraordinary and we must consider a hypothesis other than random chance to explain them.

For a unilateral test, the extraordinary zone is uniquely made of scores above the average expected by random chance. For a bilateral test, this zone is split on both sides of the average expected by random chance. A unilateral test determines if the results are significantly superior to those obtained by random chance, while a bilateral test determines if they are significantly different (superior or inferior) than those obtained by random chance. Thus, a very low score would be considered normal for a unilateral test and extraordinary for a bilateral test.



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k	Probabilité	Probabilité cumulée
0	0.4782969	0.4782969
1	0.3720087	0.8503056
2	0.1240029	0.9743085
3	0.0229635	0.997272
4	0.0025515	0.9998235
5	0.0001701	0.999938
6	6.3E-06	0.999999
7	1E-07	1

In this table, we have for each k the value of the probability to have k successes by random chance. We also give the cumulated probability (the probability of having at most k successes). The coloured cells are those not in the normality zone as per the selected criterion. We can thus say that, for the k corresponding to those cells, random chance is not a good hypothesis to explain those results.

2nd experiment:

Experiment data:

Probability of success by random chance for one trial: one out of 10 (p = 0.1)

Number of trials in the series: 10

Number of successes: 2

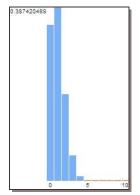
Decision criterion: a result considered to be extraordinary has less than a 1% chance of being reproduced.

Type of test: unilateral.

What can we conclude?

If the number of successes is 4 or lower, the results are considered normal. This means that the probability of randomly obtaining at least 5 successes out of 10 trials is inferior to the 1% criterion (in this case, 0.163%). The expected average result is of 1 success for 10 trials.

The obtained result (2 successes out of 10 trials) can thus be considered **normal** with the selected criterion. Indeed, the probability to get this result randomly, or more, is superior to the 1% criterion (in this case, 26.39%).



This graphic displays a histogram of how the probability of having k successes varies according to k. The values of k are shown on the x-axis and the normalised probability of the event on the y-axis. Only the value of the maximum probability is indicated on the y-axis. The extraordinary results, according to the selected criterion, are in red, while the normal results are in blue.



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k	Probabilité	Probabilité cumulée
0	0.3486784401	0.3486784401
1	0.387420489	0.7360989291
2	0.1937102445	0.9298091736
3	0.057395628	0.9872048016
4	0.011160261	0.9983650626
5	0.0014880348	0.9998530974
8	0.000137781	0.9999908784
7	8.748E-06	0.9999996264
8	3.645E-07	0.999999999
9	9E-09	0.9999999999
10	1E-10	1

In this table, we have for each k the value of the probability to have k successes by random chance. We also give the cumulated probability (the probability of having at most k successes). The coloured cells are those not in the normality zone as per the selected criterion. We can thus say that, for the k corresponding to those cells, random chance is not a good hypothesis to explain those results.

3rd experiment:

Experiment data:

Probability of success by random chance for one trial: one out of 10 (p = 0.1)

Number of trials in the series: 32

Number of successes: 4

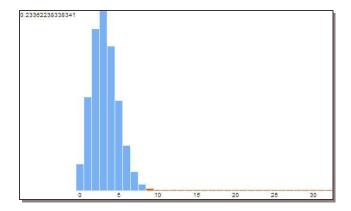
Decision criterion: a result considered to be extraordinary has less than a 1% chance of being reproduced.

Type of test: unilateral.

What can we conclude?

If the number of successes is 8 or lower, the results are considered normal. This means that the probability of randomly obtaining at least 9 successes out of 32 trials is inferior to the 1% criterion (in this case, 0.33%). The expected average result is of 3.2 success for 32 trials.

The obtained result (4 successes out of 32 trials) can thus be considered **normal** with the selected criterion. Indeed, the probability to get this result randomly, or more, is superior to the 1% criterion (in this case, 39.969%).



This graphic displays a histogram of how the probability of having k successes varies according to k. The values of k are shown on the x-axis and the normalised probability of the event on the y-axis. Only the value of the maximum probability is indicated on the y-axis. The extraordinary results, according to the selected criterion, are in red, while the normal results are in blue.



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k	Probabilité	Probabilité cumulée
0	0.034336838202925	0.034336838202925
1	0.12208653583262	0.15642337403555
2	0.21026014504507	0.36668351908062
3	0.23362238338341	0.60030590246403
4	0.18819580883664	0.78850171130067
5	0.11709961438724	0.90560132568792
6	0.058549807193621	0.96415113288154
7	0.024163412492606	0.98831454537414
8	0.0083900737821547	0.9967046191563
9	0.0024859477873051	0.9991905669438
10	0.00063529776786886	0.99982586471147
11	0:00014117728174819	0.99996704199322
12	2.7451138117704E-05	0.99999449313133
13	4.6925022423425E-06	0.99999918563358
14	7.0759954448022E-07	0.99999989323312
15	9:4346605930696E-08	0.99999998757973
18	1.1138140977929E-08	0.9999999871787
17	1.1647729127246E-09	0.9999999988264
18	1.078493437708E-10	0.9999999999049
19	8.8297708350383E-12	0.9999999999932
20	6.3770567141929E-13	0.999999999996
21	4.0489248979002E-14	- 1
22	2.2494027210557E-15	1
23	1.0866679811863E-16	- 1
24	4.527783254943E-18	1
25	1.6098784906464E-19	1
26	4.81587582672E-21	1
27	1.1891051424E-22	-1
28	2.3593356E-24	1
29	3.61584E-26	1
30	4.0176E-28	1
31	2.88E-30	-1
32	1E-32	1

In this table, we have for each k the value of the probability to have k successes by random chance. We also give the cumulated probability (the probability of having at most k successes). The coloured cells are those not in the normality zone as per the selected criterion. We can thus say that, for the k corresponding to those cells, random chance is not a good hypothesis to explain those results.



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Conclusion

We set up this experimental protocol in reference to two claims. The first was that the tested samples had, according to radiesthesic terminology, a "high and unusual vibratory rate". The CASAR association formulated the hypothesis that the particular history of those samples accounted for their states. The second was that, with such exceptional rates, these samples could be consistently measured and/or identified with dowsing means.

The attempt at demonstrating evidence of the particularity of these samples has failed. The results are close to what, on average, a performance of random chance would give. Thus, our initial hypothesis is not validated.

Nevertheless, we still commend the excellent atmosphere in which this experiment has been conducted, as well as the perfect organisation of the CASAR team. The contributors expressed a genuine will to know, their honesty was flawless, and we were all saddened by this negative result. Francis Gatti, president of the association, has shared with us the reaction of the dowsers, a few days after the protocol ended:

"Mister F. [who accompanied one of the dowsers and is in charge of a dowsing association] phoned me Monday morning to congratulate me on how this manifestation unfolded, which he considers to be quite exceptional. He was struck by the honesty and good sportsmanship evidenced by everyone [...]. The important thing is to have accomplished the feat of getting people of opposite horizons to work together, whom have all shown good will and were all surprised by the trust they could put into one another. We have all received a good lesson in rigorousness from your end, and of strange facts from our end."

"[...] we must keep going and find the causes of our failure, in any case I regret nothing about my experience at Argenton, in every way the ambiance was wonderful. On my end, I shall try to make further attempts with friends in identical conditions, I will eventually see, and we will contact you again with new data. I shall keep you informed. Amiably, Mr. B."

Henri Broch, in charge of the zetetic (scientific skepticism) laboratory of the University of Nice, wrote to us:

"A very beautiful example of how we must proceed, in the most complete conviviality (but always with a rigorous methodology). This takes me back to moving memories of such meetings with always the same slight bitter taste in the mouth, the same mitigated feeling caused by the direct "liquefying" of beliefs of people who are, after all, quite charming. **Dura zetetica sed zetetica**. I am not sure we can say it like that in Latin, but it conveys my thought well enough. [...] my greetings and congratulations to all the members of the expedition."

Thanks

We give our warmest thanks to all of those who participated:

- Mrs. B. and R., dowsers and Mr. F., who accompanied them;
- Francis Gatti, Audrey Hugot and Francis Vénat, from CASAR;
- Géraldine Fabre, Florent Martin-Michiellot, Géraldine Roche, Nicolas Touzard and Nicolas Vivant, from the Observatoire Zététique.



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Annex 1: Charter signed by the participants of the Argenton protocol before the beginning of the experiment.



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Date:

Lieu: Argenton-sur-Creuse

- Le prétendant est d'accord que tous les documents (photographies, films, écrits, enregistrements...) résultant de l'expérience pourront être utilisés et publiés par l'Observatoire Zététique. Le prétendant peut demander, avant l'expérimentation, que ces documents soient publiés sous couvert d'anonymat.
- 2) Le prétendant dégage l'Observatoire Zététique, ses membres et tout aide ou assistant physique et moral de l'expérience, de toute responsabilité en cas de blessure, maladie, traumatisme psychique, accident, perte professionnelle ou financière, résultant de l'expérience.
- Le prétendant devra assumer tous ses frais personnels (déplacement, hébergement...) liés à l'expérience ainsi que les frais inhérents aux demandes qu'il pourrait faire de matériel, appareil ou matériaux spécifiques.
- 4) Quelque soit l'issue de l'expérience, le prétendant s'engage à toujours en préciser le résultat concret lors de toute déclaration ou publication (sous quelque forme et sur quelque support que ce soit), publique ou privée, concernant cette expérience.
- 5) Tous les participants à l'expérience devront formaliser par écrit leur acceptation des règles générales decrites ci-dessus avant qu'aucun détait de protocote expérimental ne soit étaboré.

Nom	Prénom	Qualité	Signature
VIVANT	Niclas	OZ <	thic
MARTIN	florent.	OZ	nance
		Radiesthésiste	
HUGOT	Andrey	Assistant radiosthésiste	10,
	Estrenii is	Assistant radiesthésiste	
GATTI	Franci's	Organisateur	1 Jall

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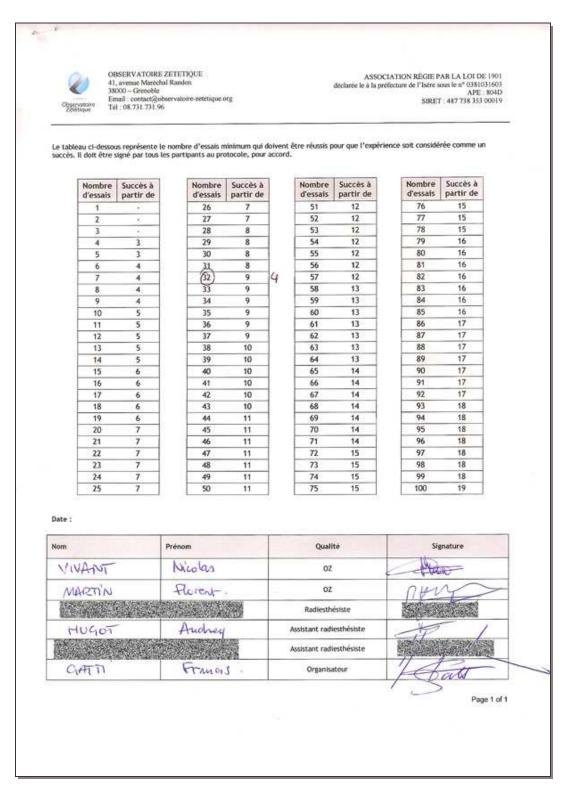
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Annex 2: Document signed by the participants at the experiment, before its beginning, specifying the number of required successes according to the number of trials.





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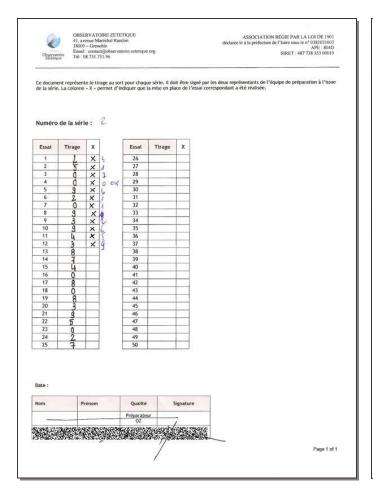
e-mail:contact@observatoire-zetetique.org

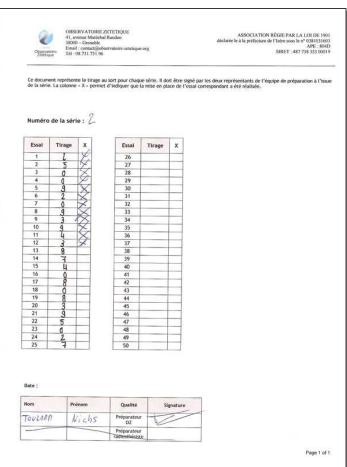
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Annex 3: Sheets used by the preparers to record the random draw of a series and to set up the sample to be identified.







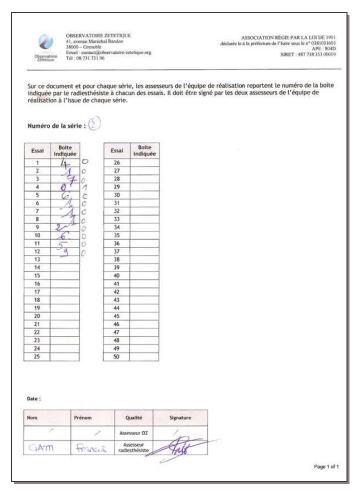
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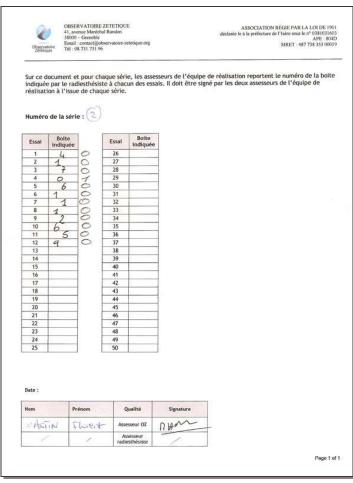
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Annex 4: Sheets used by the assessors for one series to note the box indicated by the dowser at each trial.







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Annex 5: Photographs.5













⁵ Attention: The photos included in this document are merely illustrative. They were not taken during the experiment. The information and photographs of the tested person have been made anonymous at his/her request.