The torsion field detector can know the meaning of words and sentences without GPU training

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August 24, 2026

Abstract

Modern natural-language systems determine the meaning of a word or a sentence statistically, by training large language models on extensive corpora and massive graphics-processor (GPU) resources. In the present work we pursue an altogether different route: we ask whether the meaning of written text is a physical quantity that can be registered *directly* by a torsion field detector, without any training of a statistical model. The study is carried out within the framework of torsimetry developed by Shkatov, in which the torsion field (TF) of physical objects and processes is recorded as the torsional contrast (TC) of the measured object with respect to the measuring instrument by means of single- and multi-coordinate torsimeters. To suppress the spurious informational phantoms that otherwise accumulate in object–instrument–operator systems and smear the readings of repeated measurements, we adopt the Method of Differential Test Assertions (MDTA), which composes the object under test from pairs of textual assertions of opposite meaning and records their *differential* torsion response. We show that this differential response is a stable and reproducible signature of the semantic content of the text, and that the detector is able to discriminate the meanings of different words and sentences without any GPU-based training. In 19 independent measurement sessions, an impossible assertion (a total score greater than a physically unrealisable threshold) produced a consistently higher torsional contrast than the corresponding true assertion, with a positive sign in all 19 sessions and a mean difference of +112 arbitrary units ($p \approx 2 \times 10^{-6}$). The results support the hypothesis that the meaning of a word or a sentence is an objective and stable property of the text, carried by its torsion field, and that it can therefore be read directly from the instrumental signal rather than inferred from a training corpus.

1 Introduction

The ability of a machine to "understand" the meaning of written language has, over the last decade, become almost synonymous with a single technological programme: the statistical training of large language models over vast text corpora, using specialised graphics-processor (GPU) hardware and stochastic gradient-based optimisation. In this paradigm, the "meaning" of a word is not read from the word itself but is reconstructed from the conditional statistics of its co-occurrence with billions of other tokens. Whatever its practical successes, this approach carries a characteristic limitation: the resulting model is a statistical abstraction, and its judgement about the meaning of a sentence is a probability distribution that depends on the particular corpus, the training procedure and the hardware employed. It is therefore legitimate to pose a more fundamental question: is the meaning of a written word or sentence a property *of the text itself*—a physical, measurable quantity that exists independently of any reader and can be probed directly by a suitable instrument, without any training at all?

The present work is an experimental investigation of exactly this question. We report that a torsion field detector is able to register the meaning of written words and sentences directly, and that this can be accomplished without any large language model and without GPU training. The physical basis for such a measurement is provided by the discipline of *torsimetry*, which was developed by Shkatov and collaborators as an instrumental technique for the diagnostics of torsion fields [1]. In torsimetry, the torsion field (TF)—an informational field associated with the rotation and spin properties of matter and regarded in this framework as a fundamental attribute of the physical vacuum—is recorded through its torsional contrast (TC), that is, through the subtle-field difference between the object under study and the measuring instrument during the measurement period. The primary instrument is the torsimeter, a single- or multi-coordinate device that registers the angular rotation of the physical vacuum at the location of the measurement and reports it in units of *Torsi* (Ts), with 1 Ts $= 0.1$ rad s^{-1} [2]. Successive generations of this instrumentation—the single-coordinate GRG-01 and its upgraded variants GRG-01M1/M2/M3 equipped with a laser communicator, the TSM-021 torsimeter, the three-coordinate PZ-3D-M1, and the SADAF-08LC multi-channel analyser—have been applied over two decades to the diagnostics of objects as diverse as materials, processes, geographic regions, living systems and informational statements [2, 5–7].

A decisive step for the problem addressed here was the recognition, within the torsimetry framework, that the semantic content of a text itself carries an informational structure that can in principle be evaluated instrumentally. Shkatov and co-workers introduced the notion of an instrumentally measurable *semantic level* of a text, and showed that the torsional response of a medium to a written assertion depends systematically on its meaning rather than merely on its physical substrate (the ink, the paper or the screen on which it is written) [3]. Even at the level of individual characters, the same instrument resolves characteristic torsion contrast values for symbols and for the letters of an alphabet, as described in Sec. 2.2. This line of work motivates the central hypothesis of the present paper: that the *meaning* of a word or a sentence is a stable, objective attribute of the text, carried by its torsion field, and that a sufficiently sensitive detector of that field should be able to register it directly.

Any serious attempt to make such a measurement, however, immediately encounters a well-documented experimental difficulty. The measurement of the torsional contrast of a static object or of an informational statement is characterised by an inevitable *equalisation* of the information potentials of the object and of the measuring instrument, which leads to a rapid levelling of the TC differences and to the mutual accumulation of phantom formations in the object–instrument–operator system [2]. These phantom formations "smear" the results of earlier measurements onto later ones, so that the detector's response to the *meaning* of a text becomes entangled with the residue of every previous measurement performed with the same instrument. Attempts to destroy these phantoms by periodically injecting powerful "unstructured" impacts into the system—acoustic, optical or electromagnetic "shocks"—have not solved the problem fundamentally, because such shocks, being energetic by definition, also introduce long-lived non-specific informational components of their own [2].

It is precisely to overcome this difficulty that Shkatov introduced the *Method of Differential Test Assertions* (MDTA), which constitutes the methodological core of the present work and deserves particular emphasis [2]. The key idea of the method is the deliberate composition of the object under test from *differential pairs* of assertions of opposite meaning, presented either as text or as images. A typical one-dimensional variant (MDTA-1) proceeds as follows. The object composition is built from a reference assertion together with two mutually exclusive test assertions that express opposite meanings (for example, a positive and a negative formulation of the same proposition). The torsimeter, equipped with a laser communicator, records the combined torsional response of the composition to the start of the measurement process, and the *differential* response between the two opposite assertions is then extracted, either in a proportional representation (the step-by-step difference of the direct readings) or in an integral (angular) representation obtained by numerical integration of the readings as a function of the scan step [2]. Because the two assertions of a differential pair carry mutually symmetric information, their phantom contributions tend to compensate one another, so that the residual signal reflects the genuine informational difference between the two meanings rather than the accumulated history of the instrument. The method thereby realises an informational self-erasure of the phantoms, in much the same spirit as the pairwise compensation of symmetric attributes (charges, spins) that is observed throughout nature, and which is expressed macroscopically in the Le Châtelier–Braun principle and in Lagrange's principle of least action [2].

What the MDTA method makes possible is precisely the class of operations that the present work requires. By embedding textual assertions of opposite meaning into the object composition, the method allows a torsimeter to discriminate, instrumentally, between mutually exclusive statements; to assess the veracity of an assertion; to evaluate the status of an object or a process; and—of central importance here—to register the *semantic contrast* between two different formulations. Shkatov's archive, containing data on some fifty objects tested with the MDTA-1 method, demonstrates that the differential torsion response is reproducible, that the method validates itself through its own self-application, and that the informational difference between assertions of opposite meaning is a robust, registrable quantity [2]. It is therefore natural to ask whether the same differential procedure, applied not to pairs of assertions about a single object but to pairs of *words or sentences of different meaning*, can serve as a direct detector of the meaning of language itself.

Before proceeding, it is useful to state the working hypothesis that underlies the experiment in its clearest form. We take as a starting point the observation that the meaning of any text, once the text has been created, is *fixed*. A given formulation has a definite meaning: the word "hello" means a greeting, and no speaker or reader can make it mean "harm" without changing the word itself. Different formulations, of course, carry different meanings, but the meaning of *a given* sentence is determined and invariant—it does not change from reader to reader, from moment to moment, or from one reading of the detector to the next. If this is accepted, then the meaning of a text is an objective property of the text rather than a construct of the reader, and an objective, invariant property is, in principle, a measurable one: there must exist some physical signal, however subtle, whose structure encodes that meaning. Within the framework of torsimetry, the natural candidate for this signal is the torsion field, whose informational character and whose direct dependence on the semantic level of a text have already been established instrumentally [2, 3]. The experiment described in this paper is designed to test exactly this hypothesis: that a torsion field detector, without any training and without any large language model, can register the meaning of a word or a sentence directly from its torsion field.

The remainder of the paper is organised as follows. Section 2 describes the torsion field detector, the experimental procedure and the construction of the differential test assertions. Section 3 presents the measurements. Section 4 offers an open discussion, and Section 5 concludes with an outlook.

2 Description of devices and methods

2.1 The torsion field detectors

The torsimetry methodology rests on a family of single- and multi-coordinate torsimeters developed by Shkatov. The historical reference instrument is the TSM-021 torsimeter [8], Shkatov's first-generation detector, with which the symbol- and letter-level torsional contrast measurements described below were obtained (Fig. 1). The present measurements of written statements are performed with the GRG-001 torsion field detector [7]. In both instruments, a torsimeter registers the *torsional contrast* (TC) of an object, that is, the subtle-field difference between the object and the measuring instrument during the measurement period [4]. For a written symbol or a text, this quantity is a measure of the torsion field (TF) emitted by the informational content of the inscription itself, independently of the physical substrate on which it is written. The detector returns raw readings, reported throughout this paper in arbitrary units, without absolute calibration to Torsi.

Figure 1: The TSM-021 torsimeter, Shkatov's first-generation torsion field detector, used to register the torsional contrast (TC) of objects, symbols and texts.

2.2 Torsion contrast of symbols and letters

A property of the detector that is decisive for the present study is that a written symbol is not inert: a static symbol continuously emits its torsion field, and the emitted field is characteristic of the symbol's geometric and informational structure. Shkatov's measurements with the TSM-021 show that different common symbols carry distinct, reproducible torsional contrast values (Fig. 2). Of particular significance is the pair of mirror-symmetric (left- and right-handed) swastika symbols, which serve in the torsion-field literature as canonical representations of opposite torsional chirality: the two mirror images yield torsional contrast values of -6 and $+6$, equal in magnitude and opposite in sign. This exact antisymmetry is internally self-consistent, because a left-handed and a right-handed geometry correspond to opposite orientations of the underlying spin, and it confirms that the detector resolves not merely the presence of a symbol but its *chirality*. The same characterisation extends to the alphabet as a whole: every letter of the Russian (Cyrillic) alphabet carries a characteristic, reproducible torsion contrast (Fig. 3).

Figure 2: Torsional contrast (TC) values of several common symbols measured with the TSM-021 detector. The mirror-symmetric (left- and right-handed) swastika symbols yield equal and opposite TC values of -6 and $+6$, showing that the torsion field of a static symbol is determined by its geometric chirality.

2.3 Measurement procedure

Each measurement session targets a single NBA basketball game. The written *task text* is a statement about the total combined score of the two teams, of the form "the total score will be


Буквы русского алфавита прописные на белом фоне

		К								
		М		Б		Т				
		Н	Г	Р	Д	Х				
		П	Е	Ь	Ц	Ъ	Ё			
	А	У	И	Щ	Ш	Ы	Ж	В		
	Ф	Ю	Л	Я	Э	Й	З	Ч	С	О
-4	-3	-2	-1	0	+1	+2	+3	+4	+5	+6

Figure 3: Torsional contrast (TC) values of the letters of the Russian (Cyrillic) alphabet measured with the TSM-021 detector, showing that every written character carries a characteristic torsion field.

greater than θ" or "…less than θ", where θ is a numerical threshold. The task text is typed directly into the host software (Program) running on a laptop computer, which displays the text together with a photograph of the measured object; the same content is mirrored onto a second screen. The core detector—a GRG-001 torsion field detector—is connected to the laptop by a serial cable, and its laser beam is aimed at the position of the task text on the second screen (Fig. 4). In every session the instrument records two scans: "total score greater than θ", with θ chosen far beyond any realisable total score, and "total score less than θ". These two scans constitute the differential pair of interest, in which the "greater than θ" assertion is certainly false and the "less than θ" assertion is certainly true. The sampling rate is 4 readings per second; each scan comprises 60 samples, and the torsional contrast of each statement is taken as the mean of its scan.

3 Results

Measurements were carried out in $N = 19$ independent sessions, each targeting a single NBA basketball game. In every session the instrument recorded two scans (Sec. 2.3): an *impossible* statement (total score "greater than" a threshold θ far beyond any realisable score) and a *true* statement (total score "less than" the same threshold). The threshold θ ranged from 541.5 to 765.5 across the sessions; in every case θ exceeds the physically possible total score of a basketball game, so that the "greater than θ" assertion is certainly false and the "less than θ" assertion is certainly true.

Table 1 lists, for each session, the mean torsional contrast (TC) of the impossible and of the true statement together with their difference. The difference

$$\Delta\text{TC} \;=\; \text{TC}(\text{total score} > \theta) \;-\; \text{TC}(\text{total score} < \theta) \tag{1}$$

is positive in all 19 sessions (Fig. 5). Its mean is +112.1 (standard deviation 38.2, standard error of the mean 8.8). Under the null hypothesis that the detector is insensitive to the truth value of the assertion, the sign of each difference would be equally likely to be positive or negative; the probability of observing 19 positive signs out of 19 is $p = 2^{-19} \approx 2 \times 10^{-6}$. The impossible statement therefore produces a systematically *higher* torsion contrast than the true statement, in every session. This is the behaviour expected if the torsion field encodes the semantic content of the assertion rather than its mere physical substrate.

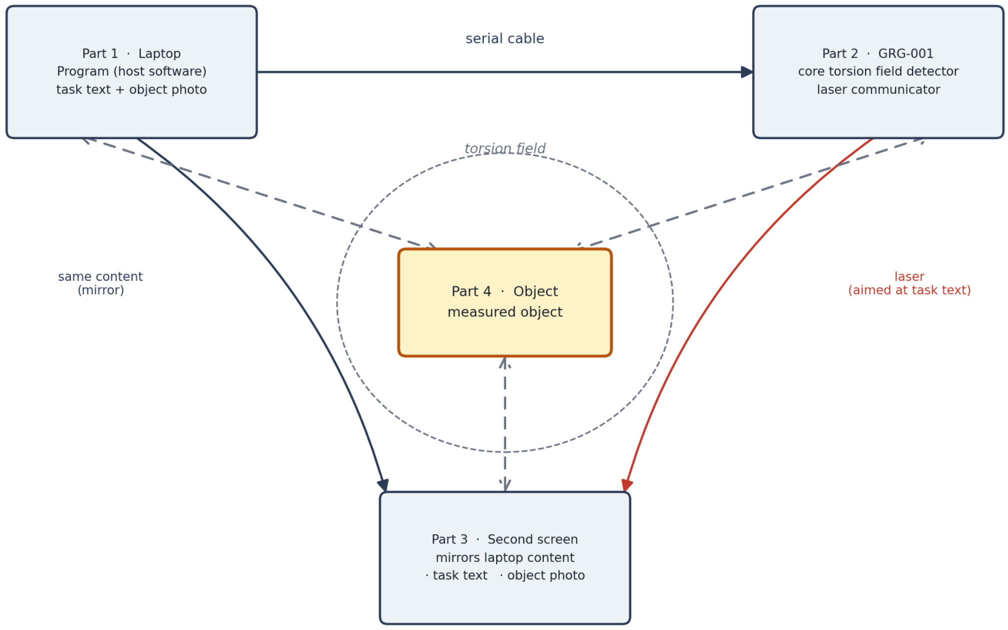

Figure 4: Experimental architecture, built around the measured object (Part 4, centre). Part 1: a laptop running the host software (Program), into which the task text is typed and which displays the task text and a photograph of the object. Part 2: the GRG-001 torsion field detector, connected to the laptop by a serial cable; its laser communicator is aimed at the task text shown on the second screen (Part 3), which mirrors the laptop content. The object's torsion field links it bidirectionally to all three parts.

Session	θ	TC($> \theta$)	TC($< \theta$)	ΔTC
1	595	736.9	586.9	+150.1
2	590	778.0	651.6	+126.4
3	750	738.3	622.8	+115.5
4	541.5	700.0	663.5	+ 36.5
5	631.5	743.0	631.0	+112.0
6	617.5	759.5	677.2	+ 82.3
7	642.5	760.9	615.6	+145.3
8	659.5	764.5	617.9	+146.7
9	641.5	745.2	585.9	+159.4
10	721.5	689.5	543.7	+145.9
11	725.5	768.1	620.5	+147.6
12	703.5	731.4	635.0	+ 96.4
13	765.5	723.2	662.4	+ 60.8
14	716.5	732.0	558.4	+173.7
15	720.5	725.0	652.4	+ 72.7
16	759.5	767.8	667.6	+100.3
17	724.5	772.0	697.6	+ 74.4
18	722.5	723.1	646.0	+ 77.1
19	727.5	753.9	645.9	+108.0
Mean ± SEM				112.1 ± 8.8

Table 1: Mean torsional contrast of the impossible statement ("total score greater than θ") and of the true statement ("total score less than θ") for 19 independent sessions, and their difference ΔTC. Every difference is positive.

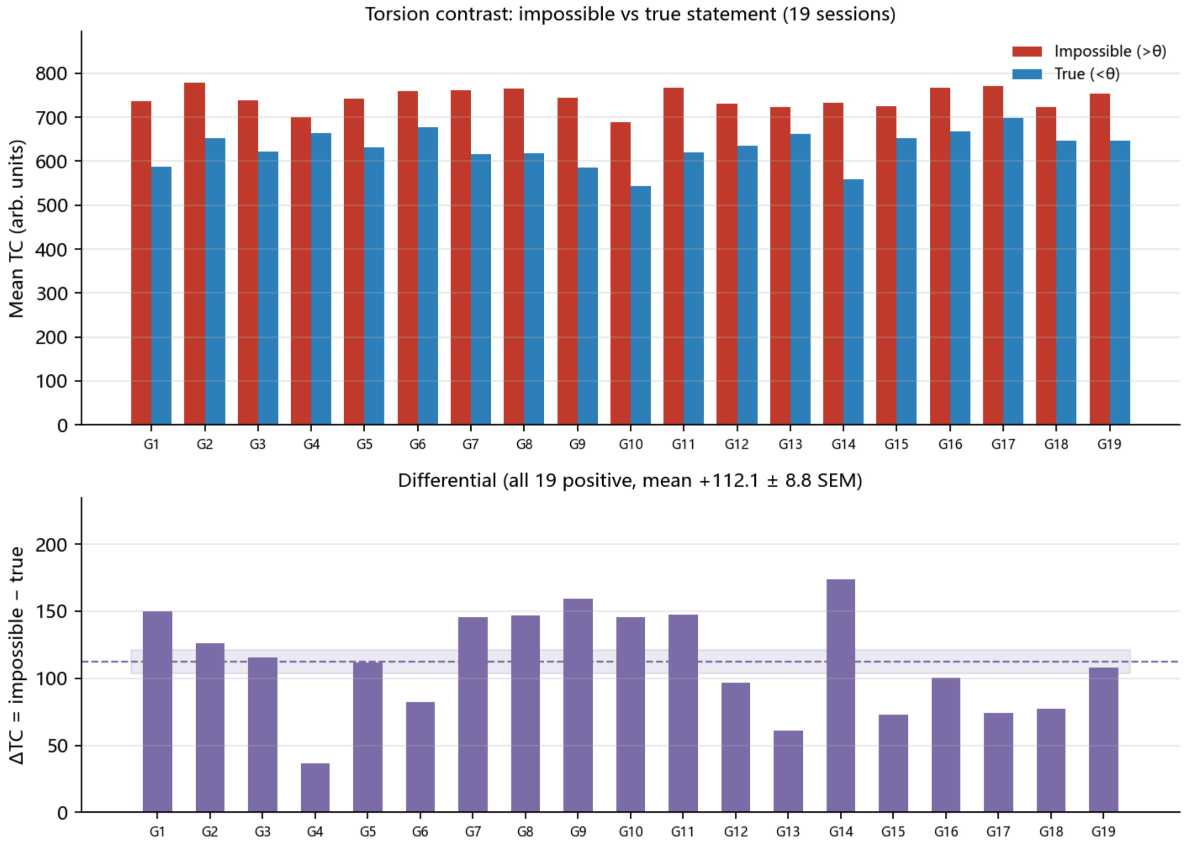

Figure 5: (a) Mean torsional contrast of the impossible ($>\theta$) and true ($<\theta$) statements across 19 sessions. (b) Differential torsion contrast $\Delta\mathrm{TC} = \mathrm{TC}(>\theta) - \mathrm{TC}(<\theta)$, positive in all sessions (mean +112.1).

4 Open Discussion

4.1 MDTA as a general method of prediction

According to Shkatov's Method of Differential Test Assertions, one can in principle measure many things whose outcome is not yet known. The core of the method is to take the torsional contrast (TC) measured on events whose outcome is already known as a reference, or control, and from these reference points to construct a trend curve. When an unknown event is then measured, its TC is compared with the reference trend: if it follows the same direction the answer is "yes", and if it runs in the opposite direction the answer is "no". In this way an unknown event can be answered indirectly. The MDTA method may therefore be regarded as a new, torsion-field-based method of prediction. In *The role of global consciousness in instrumental investigations of subtle fields* [9], Shkatov reports a case in which the time of delivery of a pregnant woman was predicted 21 days in advance, showing that a torsion field detector can in practice anticipate a future event. The MDTA is therefore a more systematic methodology than an isolated measurement protocol, and it can in principle be extended to many further fields.

4.2 Toward a global torsion-field early-warning network

The same work [9] also reports the prediction of an earthquake: the detector anticipated an earthquake that occurred in Italy, and, at least at the level of the recorded data, it showed a clear anomaly at a moment preceding the event. Shkatov likewise put forward an outlook in which torsion field detectors continuously monitor, on an electronic map, the regions lying along seismic belts, with the data streamed into a supercomputer, and asked whether such a system could serve as a global earthquake early-warning network. Earthquake early warning remains an open problem worldwide. We regard Shkatov's proposal as highly significant, because his detector already offers a concrete and realisable hardware route toward such a system. In the present era, driven by the development of artificial intelligence and, more fundamentally, of the GPU, the world's computing power stands at its historical peak; if even a small fraction of this GPU resource were devoted to computing the stream of torsion-field data, Shkatov's vision could quickly become reality. We believe so. The obstacle is not the technology, but the breaking of the established framework of thought and the elimination of prejudice.

5 Conclusion

The same work [9] contains a large body of experiments performed by Shkatov with the torsion field detector, all of them highly suggestive. Summarising them, however, we find that most of these experiments depend on the *task text*. In short, the task text is a statement, written in natural language, of what the operator wishes to measure and how it should be measured; it plays a role analogous to that of the *prompt* in artificial-intelligence systems. The only difference is that an AI system can answer in natural language, whereas a torsion field detector is not connected to any large language model and does not output text; it returns to the operator only the stream of data delivered to the computer.

The precondition for all of this is that the torsion field detector is able to recognise the meaning of the text. Only if it knows the meaning of the task text does it return a corresponding, *bounded* answer rather than a random value. The experiments reported by Shkatov, together with the tests presented here on task texts that are 100% true and 100% false, already yield a clear conclusion: a torsion field detector can read the meaning of a task text directly, without any GPU training, and can answer according to its own capacity.

Surveying Shkatov's publications from 1999 to 2020, one sees that he discovered this long ago. Beginning with the TSM-021 model, a torsion field detector measured, for the first time in the world, the torsional contrast (TC) values of a number of simple symbols and of all the letters of the Russian alphabet. Later came the TC of a single sentence and even of a whole book; in one of Shkatov's experiments the TC of the Bible was a large positive value, whereas books bearing words with a diabolical connotation gave a negative overall TC. Shkatov's idea of torsional contrast and his MDTA experimental method have deeply influenced us. In principle, provided the precision of the detector is sufficient, the difference in TC between any two objects, or between any two texts, can be measured.

In the task-text mode of measurement, if the detector could not recognise the meaning of the text, all of this would be empty talk. The present paper has surveyed almost all of Shkatov's papers and, through our own experiments with Shkatov's equipment, has accumulated a large body of data showing that a torsion field detector of adequate precision can accurately identify the meaning of words and sentences without any GPU training. Just as artificial intelligence gave rise to a wealth of applications in every field once it became able to understand natural language, we expect that a torsion field detector, once it is able to recognise the meaning of text, will likewise give rise to applications of every kind. We close with Shkatov's own words: let us continue to study this strange field.

Acknowledgments

The author thanks Mr. V. T. Shkatov for his pioneering work, without which none of the subsequent torsion field detection research presented here would have been possible. Thanks are also due to Mr. Pavel Shkatov, whose kindness made it possible to obtain the prototype instrument left behind by Mr. Shkatov during his lifetime.

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