The torsion field detector can know the meaning of the written text without GPU-based training

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Abstract

Modern natural-language systems usually represent linguistic meaning through statistical models trained on large text corpora with substantial graphics-processor (GPU) resources. The present work examines a different, instrument-based hypothesis: that semantic differences between written assertions may be registered directly as differential torsion-field responses, without training a statistical model. The study is formulated within Shkatov's torsimetry framework, in which the torsion field (TF) of physical objects and processes is recorded as the torsional contrast (TC) between the measured object and the instrument by means of single- and multi-coordinate torsimeters. To reduce spurious informational phantoms that can accumulate in object–instrument–operator systems and affect repeated measurements, we use the Method of Differential Test Assertions (MDTA). In this method, the object under test is composed from paired textual assertions with opposite meanings, and the differential torsion response between the two assertions is analysed. In 19 independent measurement sessions, a high-threshold assertion ("the total score is greater than θ"), treated as false under the experimental conditions, produced a higher torsional contrast than the paired true assertion ("the total score is less than θ") in every session. The mean paired difference was +112.1 arbitrary units, and the exact one-sided sign-test probability for 19 positive differences out of 19 was $p = 2^{-19} \approx 1.9 \times 10^{-6}$. These results show a reproducible differential response between the paired textual assertions in the present protocol. Within the torsimetry framework, they support the working hypothesis that semantic content can contribute to the measured torsional contrast of a written text; independent replication and expanded controls will be required to determine the generality and physical mechanism of the effect.

1 Introduction

The ability of a machine to "understand" written language is now most often associated with the statistical training of large language models on extensive text corpora, using specialised graphics-processor (GPU) hardware and gradient-based optimisation. In this paradigm, the meaning of a word or sentence is represented through patterns learned from large numbers of linguistic contexts. This approach has produced remarkable practical results, but it also raises a distinct conceptual question: can semantic content be investigated as a property of a written text itself, rather than only as a statistical inference made by a trained model?

The present work addresses that question experimentally within the framework of *torsimetry*, developed by Shkatov and collaborators as an instrumental technique for the diagnostics of torsion fields [1]. In this framework, the torsion field (TF) is described as an informational field associated with rotational and spin-related properties of matter and with the physical vacuum. It is measured through the torsional contrast (TC), namely 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 measurement and reports it in units of *Torsi* (Ts), with 1 Ts = 0.1 $\mathrm{rad\,s^{-1}}$ [2]. Several generations of this instrumentation—including the single-coordinate GRG-01 and its upgraded GRG-01M1/M2/M3 variants with a laser communicator, the TSM-021 torsimeter, the three-coordinate PZ-3D-M1, and the SADAF-08LC multi-channel analyser—have been applied to materials, processes, geographic regions, living systems and informational statements [2, 5–7].

The specific problem considered here follows from Shkatov's proposal that the semantic content of a text has 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 reported that the torsional response of a medium to a written assertion depends on the assertion's meaning, rather than only on the physical substrate on which it is written [3]. At the character level, the same line of work reports characteristic torsion-contrast values for symbols and for letters of an alphabet, as summarised in Sec. 2.2. These results motivate the working hypothesis of the present paper: a sufficiently sensitive torsion-field detector may be able to discriminate written texts that differ in semantic content.

Such a measurement faces a central methodological difficulty. In torsimetry, repeated measurements of a static object or informational statement are reported to produce an *equalisation* of the information potentials of the object and the measuring instrument. This effect reduces the measured TC differences over time and is accompanied by the accumulation of phantom formations in the object–instrument–operator system [2]. These phantom formations can carry residual information from previous measurements into later ones, thereby confounding the response to the current text. Attempts to remove these phantoms by applying strong unstructured acoustic, optical or electromagnetic disturbances have not provided a general solution, because such disturbances can introduce additional non-specific informational components [2].

Shkatov introduced the *Method of Differential Test Assertions* (MDTA) to address this problem [2]. The central idea is to construct the object under test from *differential pairs* of assertions with opposite meanings, presented either as text or as images. In the one-dimensional version (MDTA-1), the object composition contains a reference assertion and two mutually exclusive test assertions, such as positive and negative formulations of the same proposition. A torsimeter equipped with a laser communicator records the combined torsional response of the composition at the start of measurement. The differential response between the paired assertions is then extracted either from the stepwise difference of the direct readings or from an integral angular representation obtained by numerical integration over the scan steps [2]. Because the two assertions are informationally opposed, their phantom contributions are expected to partly compensate one another, leaving a residual signal associated with the informational difference between the two meanings.

The present experiment applies this differential logic to written task texts. Instead of asking whether a trained model can assign a semantic interpretation to a sentence, we ask whether a torsion-field detector can produce a stable differential signal when exposed to paired assertions whose meanings and truth conditions are deliberately opposed. Operationally, the experiment compares two statements about the same basketball game: a high-threshold statement of the form "the total score is greater than θ" and its paired counterpart, "the total score is less than θ". The threshold θ is chosen far above the expected range of an NBA total score, so the two statements provide a controlled pair of opposite semantic and truth-value conditions. The central question is whether the measured TC difference between these two texts is consistent across independent sessions.

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 discusses the interpretation, limitations and possible extensions of the method. Section 5 concludes with an outlook.

2 Materials and methods

2.1 Torsion-field detectors

The torsimetry methodology is based on a family of single- and multi-coordinate torsimeters developed by Shkatov. The historical reference instrument is the TSM-021 torsimeter [8], a first-generation detector with which the symbol- and letter-level torsional-contrast measurements described below were obtained (Fig. 1). The measurements of written statements reported in the present work were performed with a GRG-001 torsion-field detector [7]. In both instruments, the measured quantity is the *torsional contrast* (TC) of an object, defined in this framework as the subtle-field difference between the object and the measuring instrument during the measurement period [4]. For a written symbol or text, this quantity is interpreted as a measure of the torsion field (TF) associated with the informational content of the inscription. The detector output used here consists of raw instrumental readings reported 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

For the present study, an important premise of the torsimetry literature is that a written symbol is not treated as an inert graphical mark. Instead, a static symbol is assumed to emit a torsion field characteristic of its geometric and informational structure. Shkatov's measurements with the TSM-021 report distinct and reproducible torsional-contrast values for several common symbols (Fig. 2). A frequently cited example is a pair of mirror-symmetric, left- and right-handed symbols, which are used in this literature as representations of opposite torsional chirality. The two mirror forms yield torsional-contrast values of -6 and $+6$, equal in magnitude and opposite in sign. Within the torsimetry framework, this antisymmetry indicates that the detector resolves not only the presence of a symbol but also its chirality. The same type of characterisation has also been reported for the Russian (Cyrillic) alphabet, in which each letter is assigned a characteristic torsional-contrast value (Fig. 3).

2.3 Measurement procedure

Each measurement session targeted a single NBA basketball game. The written *task text* was a statement about the total combined score of the two teams, expressed as either "the total score is greater than θ" or "the total score is less than θ", where θ is a numerical threshold. The task text was entered directly into the host software running on a laptop computer. The software

Figure 2: Torsional contrast (TC) values of several common symbols measured with the TSM-021 detector. The mirror-symmetric left- and right-handed symbols yield equal and opposite TC values of -6 and $+6$, illustrating the reported sensitivity of the instrument to geometric chirality.

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.

displayed the text together with a photograph of the measured object, and the same content was mirrored onto a second screen. The GRG-001 torsion-field detector was connected to the laptop by a serial cable, and its laser beam was aimed at the position of the task text on the second screen (Fig. 4).

In every session, the instrument recorded two scans: one for "total score greater than θ" and one for "total score less than θ". The threshold θ was chosen far above the expected range of an NBA total score. Under this experimental construction, the "greater than θ" assertion served as the false member of the pair, whereas the "less than θ" assertion served as the true member. The two scans therefore formed the differential test pair. The sampling rate was 4 readings per second; each scan comprised 60 samples, and the torsional contrast of each statement was defined as the arithmetic mean of the corresponding 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 the two paired scans described in Sec. 2.3: a high-threshold statement of the form "total score greater than θ" and the paired statement "total score less than θ". The threshold θ ranged from 541.5 to 765.5 across the sessions. These values are far above the expected range of NBA total scores, so the "greater than θ" assertion was used as the false member of the pair and the "less than θ" assertion as the true member.

Table 1 lists, for each session, the mean torsional contrast (TC) of the false and true statements, together with the paired difference

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

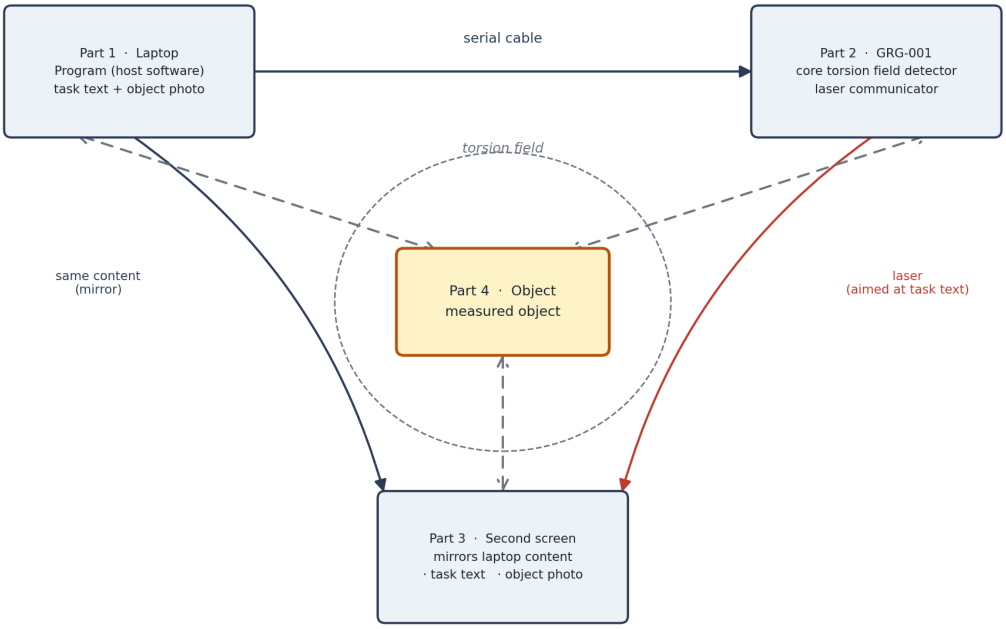

Figure 4: Experimental architecture, built around the measured object (Part 4, centre). Part 1: a laptop running the host program, into which the task text is typed and which displays the task text and a photograph of the object. Part 2: the GRG-001 torsion-field detector, connected to the laptop by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

shown in Fig. 5. The paired difference was positive in all 19 sessions. Its mean was +112.1 arbitrary units, with a standard deviation of 38.2 and a standard error of the mean of 8.8. Under the null hypothesis that the sign of the paired difference is unrelated to the semantic or truth-value contrast of the assertions, positive and negative signs would be equally likely. The exact one-sided sign-test probability of observing 19 positive signs in 19 sessions is therefore $p = 2^{-19} \approx 1.9 \times 10^{-6}$. Thus, within this measurement protocol, the false high-threshold statement produced a systematically higher torsional contrast than the paired true statement. This result indicates a stable differential response between the two textual assertions; it is consistent with the hypothesis that semantic content contributes to the measured signal, although it does not by itself establish the physical mechanism of that contribution.

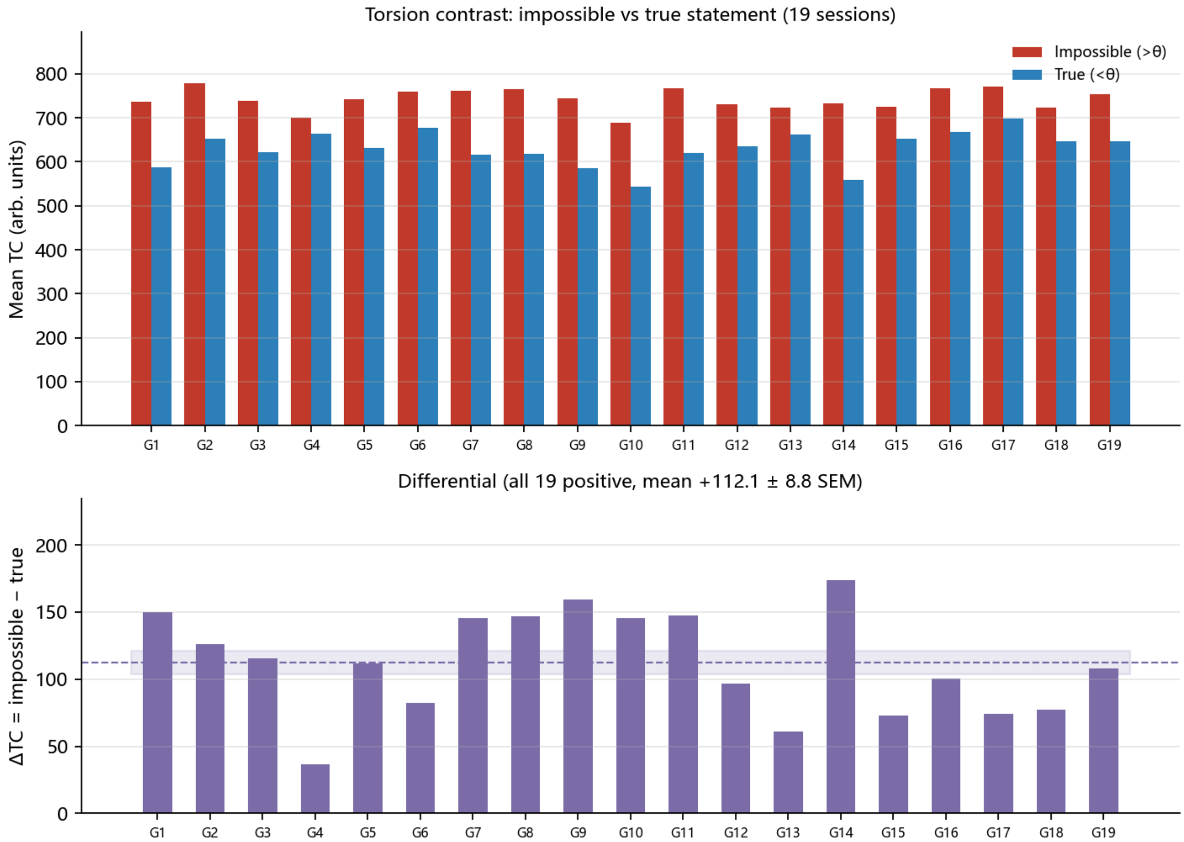

Figure 5: (a) Mean torsional contrast of the false high-threshold ($> \theta$) and true ($< \theta$) statements across 19 sessions. (b) Differential torsion contrast $\Delta\mathrm{TC} = \mathrm{TC}(> \theta) - \mathrm{TC}(< \theta)$, positive in all sessions (mean +112.1).

4 Discussion

4.1 Interpretation of the differential response

The main empirical finding is the consistency of the paired difference: in all 19 sessions, the high-threshold false assertion produced a larger mean TC than the paired true assertion. Because both texts were presented through the same hardware, software and visual display pathway, the comparison is primarily a within-session differential comparison rather than an absolute calibration of the detector. This is important methodologically. The result does not depend on assigning a universal value to either text; it depends on the reproducibility of the contrast between two texts that differ in meaning and truth value.

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 false high-threshold statement ("total score greater than θ") and of the true statement ("total score less than θ") for 19 independent sessions, and their paired difference ΔTC. Every difference is positive.

Within Shkatov's torsimetry framework, this behaviour is naturally interpreted as evidence that the semantic content of the task text participates in the measured torsional contrast. More conservatively, the present data establish that the detector output separated the two members of the textual pair in a stable direction under the stated experimental conditions. Further work should therefore focus on whether the same separation persists under blinded presentation, randomised scan order, additional semantic controls and independent replication with different operators and instruments.

4.2 MDTA as a framework for predictive measurements

The Method of Differential Test Assertions is broader than the particular semantic-control experiment reported here. In Shkatov's formulation, events or objects with known outcomes can be used as references to construct a calibration trend in TC. Measurements of unknown events are then compared with this reference trend, and the direction of the differential response is used to infer a "yes" or "no" answer [2]. From this point of view, MDTA is not merely a way to measure a single object, but a procedure for comparing an unknown case with a structured set of known assertions.

Shkatov and co-workers reported several applications of this idea. In *The role of global consciousness in instrumental investigations of subtle fields* [9], they described, among other examples, a prediction of a childbirth date 21 days in advance. Such reports are relevant to the present paper because they rely on the same prerequisite: the task text must be meaningful to the measurement system. If the detector were insensitive to the meaning of the written assertion, the task text could not serve as a stable part of the measurement protocol.

4.3 Limitations and required controls

The present experiment should be regarded as an initial semantic-discrimination test rather than a complete validation of a physical mechanism. Several limitations remain. The sample size is modest; the detector readings are reported in arbitrary units; the order of presentation, environmental conditions and operator effects require stricter control; and the present design compares a specific class of paired assertions rather than the full range of words, sentences and semantic relations. Future experiments should therefore include preregistered protocols, automated randomisation, blinded or double-blinded presentation, sham or meaningless text controls, repeated measurements across independent laboratories, and explicit monitoring of temperature, electromagnetic conditions and instrumental drift.

These controls are especially important if MDTA is to be extended from known-truth semantic pairs to prediction tasks. In such applications, the relevant performance measures would include not only the direction of TC differences but also calibration error, false-positive and false-negative rates, time stability, and the ability to reproduce the result before the outcome is known.

4.4 Toward larger torsion-field monitoring systems

Shkatov also proposed that torsion-field detectors could be used in wider monitoring networks, including possible applications to seismic regions [9]. Such a network would require continuous detector operation, synchronised timestamps, geographically distributed stations, centralised data processing and rigorous statistical criteria for distinguishing true anomalies from background variation. Modern computing resources, including GPU-based processing where appropriate, could support the analysis of such data streams. However, the feasibility of any early-warning system would depend on reproducible detector behaviour, independently verified predictive value and carefully quantified false-alarm rates.

5 Conclusion

Many of Shkatov's reported torsimetry experiments depend on a written *task text*: a natural-language statement specifying what is to be measured and how the measurement is to be interpreted. In this respect, the task text is analogous to a prompt in an artificial-intelligence system, with one crucial difference. A language model returns a linguistic answer generated from a trained statistical representation, whereas a torsion-field detector returns only an instrumental data stream. If task-text-based torsimetry is to be meaningful, the detector response must therefore be sensitive to the semantic content of the written instruction.

The experiment reported here tested this prerequisite with paired assertions whose meanings and truth values were deliberately opposed. Across 19 independent sessions, the false high-threshold statement produced a higher torsional contrast than the paired true statement in every case, with a mean paired difference of $+112.1$ arbitrary units and an exact one-sided sign-test probability of approximately 1.9×10^{-6}. These findings support the working hypothesis that, under the present protocol, a torsion-field detector can discriminate between written assertions on the basis of their semantic content without GPU-based training or a large language model.

The conclusion should nevertheless be understood as conditional on the experimental framework and instrumentation described here. The next stage is not merely to accumulate additional examples, but to establish stricter controls, independent replication and a clearer physical account of the measured signal. If such work confirms the stability and generality of the effect, task-text-based torsimetry may become a useful experimental route for studying the relation between written language, informational structure and torsion-field measurements.

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