



The impact of affective and cognitive focus on attitude formation [☆]

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Abstract

We examined the effects of unobtrusive affective and cognitive focus on attitude formation. To induce focus, participants worked on a word-search puzzle consisting of either affective (e.g., emotion) or cognitive (e.g., reasoning) words. They then read positive and negative affective and cognitive information about a new attitude object. In the affective focus condition, evaluations were more congruent with the valence of the affective information than they were in the cognitive focus condition, where evaluations were more congruent with the valence of the cognitive information than they were in the affective focus condition. Affective focus also resulted in enhanced recall of affective information. The effects on evaluations remained stable over time, whereas effects on memory disappeared. Finally, affective focus was associated with faster response times, suggesting enhanced accessibility of affect-based attitudes. The present research shows that an affective or cognitive focus leads to the formation of different attitudes.

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“...and remember, your focus determines your reality”

Qui-Gon Jinn (Starwars, Episode I)

Evaluations come in all kinds and sizes. Take the example of the evaluation of the bank to which you entrust your money. Now compare this with how you might evaluate a pet animal, such as a cat. Although both evaluations are probably positive, they almost certainly differ in their basis. You are likely to base your evaluation of your bank on beliefs and other cognitive considerations, but you probably evaluate your pet in

terms of feelings and other affective considerations (i.e., the cat being cute).

Most evaluations incorporate both cognitive and affective components. Attitude research often describes cognitive and affective components of an attitude in relation to an overall evaluation. The latter more general evaluation reflects whether one is opposed to or in favor of a certain attitude object (Eagly & Chaiken, 1998; Giner-Sorolla, 1999; Tesser & Martin, 1996). Relevant cognitions are the valenced beliefs held by the individual about the attitude object. Relevant affect is the set of feelings and emotions the person associates with the attitude object. There is evidence that cognition and affect are attitude components that can be distinguished both from each other (Breckler, 1984; Breckler & Wiggins, 1989; Crites, Fabrigar, & Petty, 1994; Trafimow & Sheeran, 1998) and from overall evaluations (van den Berg, Manstead, van der Pligt, & Wigboldus, in press).

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If we accept that affect and cognition are separate components of attitudes, it follows that it should be possible to render one or the other more salient. Importantly, this could lead to the formation of different attitudes, reflecting the salience of the affective or cognitive component. Previous research has indirectly addressed this issue by examining the attitude–behavior relationship. Millar and Tesser (1986) found, when participants were asked to focus on their feelings about a puzzle (affective focus) or on their thoughts about the puzzle (cognitive focus), that a match between cognitive or affective focus and cognitively or affectively driven behavior enhanced the relation between attitudes and behavior. Thus, the cognitive focus resulted in a higher correlation between attitude and time spent on the puzzle, but only when working on a puzzle was framed in instrumental terms. Likewise, in an affective focus there was a higher correlation between the attitude and behavior when working on a puzzle was framed in consummatory terms. The mechanism held to be responsible for such effects is that emphasizing the affective or cognitive component results in an overall evaluation that more closely reflects the emphasized component, which in turn improves the attitude–behavior relationship.

Related effects have been obtained with existing attitudes (Esses & Dovidio, 2002; Farley & Stasson, 2003). Interestingly, both these latter studies presupposed that the relevant behavior was affectively driven. Farley and Stasson (2003) found stronger correlations between attitudes and blood donation intentions when participants were in an affective focus as compared to a cognitive focus. Similar findings were obtained by Esses and Dovidio (2002) in the context of viewing a video about discrimination against ethnic minorities and willingness to engage in intergroup contact. If we presume that both studies indeed investigated behaviors that are affectively driven, they demonstrated an enhanced attitude–behavior correlation when participants were in a congruent (affective) focus.

Although at first it may seem that these studies establish that a cognitive or affective focus renders certain aspects more salient which in turn results in different attitudes being formed, there are a number of loose ends that make this conclusion preliminary. A basic problem is that the previous studies did not assess the effect of focus on the attitude as such, but rather investigated the difference in strength of relation between attitudes and behavior. This means that other constructs that have been inadvertently activated could also account for the attitude–behavior consistency effects. For instance, focus could not only have influenced attitudes but also behavior, or a combination of the two.

Another potential problem is the use of an explicit focus manipulation: “focus on your feelings/thoughts.” First, the use of such an explicit focus manipulation might evoke demand characteristics or experimenter

effects. For example, in the study of Esses and Dovidio (2002), the affective focus condition might have resulted in increased socially desirable responses (more willingness to engage in contact with ethnic minority groups) as compared to the cognitive focus condition. A second issue is that using an explicit cognitive focus manipulation might have led to an attitude disrupting analysis of reasons for holding an attitude, of the type studied by Wilson and Schooler (1991).¹ When the effect of an affective focus as compared to a cognitive focus is investigated this could account for the enhanced attitude–behavior correlations observed under affective focus conditions (Esses & Dovidio, 2002; Farley & Stasson, 2003).

Thus, rather than showing that focus leads to different attitudes, the previous research demonstrated at best that focus influenced the strength of the attitude–behavior correlation. What is needed is research more specifically concerned with the effect of focus on attitudes, in order to investigate whether affective or cognitive focus results in attitudes that differ in their basis, as in the example of attitudes toward banks versus attitudes toward cats.

The present study

The present study extends previous research by investigating more directly whether affective or cognitive information can be made more accessible, resulting in a different attitude being formed. We investigated the effect of an unobtrusive rather than an explicit manipulation of focus. Prior research has shown that it is possible to prime not only semantic concepts (Higgins, Rholes, & Jones, 1977; Sherman, Mackie, & Driscoll, 1990) and valence (Fazio, Sanbonmatsu, Powell, & Kardes, 1986) unobtrusively, but also behavior (Dijksterhuis & van Knippenberg, 1998) and goals (Bargh, Gollwitzer, Lee-Chai, Barndollar, & Trötschel, 2001). In a similar manner, we assumed that cognitive or affective information can be activated by unobtrusive priming. This was done by activating concepts relevant to one of two dimensions by initially asking participants to solve a word-search puzzle.

We investigated the effect of cognitive or affective focus on the formation of attitudes. In a supposedly unrelated experiment, participants read information about a new attitude object. This either consisted of positive affective information in combination with negative cognitive information, or of negative affective information in combination with positive cognitive information. We expected to find an interaction between focus and type of information: with an affective focus, the overall

¹ We thank one of the reviewers for pointing out this alternative explanation.

evaluation should be more in accordance with the valence of the affective information than with that of the cognitive information; with a cognitive focus, the overall evaluation should be more in accordance with the valence of the cognitive information than with that of the affective information.

Furthermore, we assumed that if an affective or cognitive focus does indeed render certain information more salient, this should influence memory for this information. For instance, Sherman et al. (1990) found better recall of prime-relevant information when participants were primed with a foreign affairs or economic matters concept. Thus, a cognitive focus should result in more cognitive characteristics being recalled, by comparison with an affective focus, whereas an affective focus should result in more affective characteristics being recalled, by comparison with a cognitive focus. We included a memory task to investigate this. We also investigated the stability of the effects of focus on evaluations and memory by again measuring attitude and recall after a delay.

Finally, the present paradigm gives us the opportunity to investigate effects of attitudinal basis on attitude strength. An affective basis has been regarded as a possible determinant of attitude strength (Fazio, 1995; Verplanken, Hofstee, & Janssen, 1998). This implies that an attitude formed in an affective focus should result in a stronger object-evaluation association, and therefore greater attitude accessibility, than an attitude formed in a cognitive focus. We examined this by testing whether an affective focus led to faster response times, as indexed by the time participants needed to make an evaluation.

Method

Participants and design

Seventy-five undergraduate students (57 of whom were female) from the University of Amsterdam participated in exchange for course credits or €3.50 (\$3.82). They were randomly assigned to either an affective focus condition or a cognitive focus condition. Participants in each condition read either Story 1, which included positive affective information and negative cognitive information (A+/C−), or Story 2, which included negative affective information and positive cognitive information (A−/C+). This resulted in a 2 (focus: affect vs. cognition) × 2 (type of information: Story 1 A+/C−, Story 2 A−/C+) between-subjects design.

Procedure

Participants were seated individually in front of a computer. They were told that they were going to participate in a series of experiments.

Focus

To manipulate focus, participants worked for three minutes on a word-search puzzle. The puzzle was presented as a pilot study. It was said that the researchers wanted to investigate how many words participants could find in the puzzle, as a function of how much time they had to search. In fact, all participants were given 3 min to perform the search. The puzzle consisted of a 15 × 15 letter matrix, in which participants searched for hidden words. Words could be written from top to bottom, from bottom to top, from left to right, from right to left, or on a diagonal. Participants were asked to mark the words they found. The nine words that had to be found were listed next to the puzzle. In the affective focus condition, participants searched for the following words:² ‘feeling,’ ‘emotion,’ ‘sensation,’ ‘state of mind,’ ‘intuition,’ ‘impression,’ ‘experiencing,’ and ‘behavior.’ In the cognitive focus condition, participants searched for ‘thinking,’ ‘logic,’ ‘analyzing,’ ‘rational,’ ‘knowing,’ ‘mind,’ ‘reasoning,’ and ‘behavior.’

Attitude object

The next part of the experiment was presented as a different study. Participants read a story about a newly discovered animal called “Garuda.” There were two versions of this story. Apart from non-valenced information, each story included three valenced affective expressions and two valenced cognitive expressions.³ The two texts are shown in the Appendix A. Affective and cognitive characteristics were selected on the basis of a pilot study in which 20 participants rated each of 14 characteristics as affective or cognitive, and as positive or negative. For each story, we selected affective and cognitive characteristics that were evaluated as equally extreme in terms of valence. In a second pilot study, we tested memory for the two stories and found no difference in recall of the number of cognitive or affective characteristics.

Attitude measures

Participants were asked to respond to the stem: “My overall attitude toward the Garuda is ...,” by rating the extent to which each of the following adjectives was applicable: ‘good,’ ‘like,’ ‘positive,’ ‘pro,’ ‘bad,’ ‘dislike,’ ‘negative,’ and ‘anti.’ Because positive and negative evaluations tend to be independent (Cacioppo & Berntson, 1994), unipolar rather than bipolar scales were used. Participants rated the applicability of each term by clicking on a visual analogue scale, ranging from not applicable (0) to very applicable (50).

² Translations of the originally Dutch words are presented here. The word ‘behavior’ was included to add credibility to the cover story.

³ More affective than cognitive aspects were included because of the greater wordiness of cognitive aspects.

Memory

Participants were asked to write down all they could remember about the Garuda. Two independent judges who were blind to condition classified the correctly remembered information as affective, cognitive or neutral. The interjudge agreement was high (interrater reliability = .88). The mean number of memories of each category, based on both judges' classifications, was taken as the retrieval score.

Awareness check

At the end of the experiment, participants answered an open-ended question asking whether they had noticed anything in particular about the puzzle. A similar question was posed about the story.

Delayed memory and evaluation

Participants then engaged in other, unrelated experiments for 30 min. Finally, participants were asked once again to write down all they could remember about the Garuda and to evaluate the Garuda for a second time. They had not been warned that we would ask these further questions.

Response time

We examined the time participants needed to respond to each item by assessing the total time in seconds from the presentation of the scale to clicking on an 'OK' button in order to proceed to the next item. Participants were able to correct their evaluations. They were not given any instructions concerning the speed of their reactions. Outliers were excluded by transforming scores into *z*-scores, and then removing scores greater than ± 2.5 (Stevens, 1996). Scores were analysed after applying a logarithmic transformation to correct for non-normality.

Results

Awareness

None of the participants reported any awareness of the relation between the puzzle and the Garuda story.

Overall evaluation

Reliabilities were satisfactory for both the overall positive (Cronbach's $\alpha = .87$) and overall negative items (Cronbach's $\alpha = .91$). The scores of seven participants were removed because they proved to be statistical outliers (*z*-scores greater than ± 2.5 ; Stevens, 1996). Table 1 shows the means and standard deviations for the evaluations of the Garuda in each of the four conditions. In a 2 (focus: affect vs. cognition) \times 2 (type of information: Story 1 A+/C- vs. Story 2 A-/C+) MANOVA, with the

Table 1

Positive and negative overall evaluations for Story 1 and 2 as a function of affective or cognitive focus

	Affective focus	Cognitive focus
<i>Story 1 (n = 33)</i>		
Affect positive, cognition negative		
Overall positive	28.06 (6.63)	23.33 (9.62)
Overall negative	17.81 (6.06)	17.65 (10.88)
<i>Story 2 (n = 35)</i>		
Affect negative, cognition positive		
Overall positive	33.09 (9.43)	37.70 (6.92)
Overall negative	5.92 (5.98)	5.52 (6.51)

Note. Scale runs from 0 to 50, higher is more applicable. SDs in parentheses.

positive and negative overall evaluations as dependent variables, we found the predicted interaction, $F(2, 63) = 3.10, p = .05$. In the affective focus condition, participants evaluated the Garuda more in line with the valence of the affective information, whereas in the cognitive focus condition, participants evaluated the Garuda more in line with the valence of the cognitive information. The interaction effect was significant for the positive evaluations, $F(1, 64) = 5.38, p = .02$, but not for the negative evaluations ($F < 1$). Simple contrasts for the interaction found for positive evaluations showed that in Story 1 the affective focus resulted in a more positive evaluation as compared to the cognitive focus, $F(1, 65) = 3.50, p = .03$. In Story 2 cognitive focus resulted in a more positive evaluation, although this contrast was not significant, $F(1, 65) = 1.62, p = .10$. No other main or interaction effects were found, apart from a multivariate main effect of type of information, $F(2, 63) = 24.20, p < .01$, which reflects the fact that the two stories differed in impact. Story 2, consisting of negative affective information in combination with positive cognitive information resulted in a more positive evaluation than did Story 1, which consisted of positive affective information in combination with negative cognitive information.

After 30 min participants provided a second overall evaluation. Table 2 presents the means and standard deviations. In a 2 (focus: affect vs. cognition) \times 2 (type of information: Story 1 A+/C- vs. Story 2 A-/C+)

Table 2

Positive and negative delayed overall evaluations for Story 1 and 2 as a function of affective or cognitive focus

	Affective focus	Cognitive focus
<i>Story 1 (n = 30)</i>		
Affect positive, cognition negative		
Overall positive	27.06 (7.74)	20.73 (10.18)
Overall negative	16.48 (8.04)	14.46 (11.75)
<i>Story 2 (n = 35)</i>		
Affect negative, cognition positive		
Overall positive	29.93 (9.41)	34.59 (8.88)
Overall negative	6.33 (6.80)	6.90 (8.60)

Note. Scale runs from 0 to 50, higher is more applicable. SDs in parentheses.

MANOVA, with the delayed positive and negative overall evaluations as dependent variables, we found the expected interaction between focus and Story version, $F(2,60) = 3.90, p = .03$. In the affective focus condition, participants' evaluations were more in line with the valence of the affective information. In the cognitive focus condition their evaluations were more in line with the valence of the cognitive information. Univariate analyses revealed that this interaction effect was again significant for the positive items, $F(1,61) = 5.90, p = .02$, but not for the negative ones ($F < 1$). Simple contrasts for the positive evaluations showed that in Story 1 the affective focus resulted in more positive evaluation as compared to the cognitive focus, although this effect was only marginally significant, $F(1,61) = 2.39, p = .06$. The difference between the two focus conditions was not significant for Story 2, $F(1,61) = 1.71, p = .10$, although the means pointed to a more positive evaluation in the cognitive focus condition. No other main or interaction effects were found, apart from a multivariate main effect of type of information, $F(2,60) = 22.25, p < .01$, indicating a more positive evaluation following Story 2 than following Story 1.

Memory

Table 3 shows the means and standard deviations for the number of cognitive and affective retrievals for each condition. In a 2 (focus: affect vs. cognition) \times 2 (memory: affective vs. cognitive) MANOVA, with cognitive or affective memory as repeated measures, we found an interaction between focus and memory, $F(1,71) = 4.17, p = .04$. Participants in the affective focus condition recalled fewer cognitive than affective characteristics, whereas participants in the cognitive focus condition recalled somewhat more cognitive than affective characteristics. No other main or interaction effects were found. We also tested memory for the story after a 30-min delay during which participants were involved in an unrelated experiment. In a 2 (focus: affect vs. cognition) \times 2 (memory: affective vs. cognitive) MANOVA, with memory as a repeated measure, no main or interaction effects were found.

Response times

The scores of nine participants were removed due to out of range responses. Table 4 presents the means and standard deviations. In a 2 (focus: affect vs.

Table 4

Raw response times (in seconds) of positive and negative overall evaluations as a function of affective or cognitive focus

	Affective focus ($n = 36$)	Cognitive focus ($n = 30$)
Overall positive	4.15 (1.05)	4.84 (1.25)
Overall negative	3.78 (0.91)	4.20 (0.98)

SDs in parentheses.

cognition) \times 2 (type of information: Story 1 A+/C– vs. Story 2 A–/C+) MANOVA with response times for the positive and negative overall evaluations as dependent variables, there was a main effect of focus, $F(2,61) = 3.27, p = .04$. Participants in the affective focus condition took less time to make their evaluations than their cognitive focus counterparts did. Univariate analysis demonstrated that this effect was significant for positive evaluations, $F(1,62) = 6.59, p = .01$. A similar pattern was apparent for the negative evaluations, $F(1,62) = 3.81, p = .06$. No other main effects or interaction effects were found for either the immediate or the delayed evaluations.⁴

Discussion

We predicted that type of focus would render affective or cognitive information more salient, and thereby lead to the formation of attitudes in line with the valence of the salient information. Our findings were consistent with these predictions. Support for the first notion was provided by recall for affective or cognitive information. Participants recalled fewer cognitive than affective characteristics in the affective focus condition relative to the cognitive focus condition, whereas participants in the cognitive focus condition recalled somewhat more cognitive than affective characteristics. Moreover, newly formed attitudes were more in line with the valence of

⁴ To check whether the enhanced response time in an affective focus was in some way related to greater extremity of the evaluations, we assessed the effect of focus on level of extremity in a two-way ANOVA. However, the means were in the opposite direction: there was more extremity in a cognitive focus ($M = 24.63, SD = 13.77$) than in an affective focus ($M = 19.71, SD = 12.94$), although this effect was only marginally significant, $F(1,63) = 2.98, p = .09$. Thus, although it has been found that level of extremity moderated the effect of faster responding when attitudes were affectively based (Giner-Sorolla, 2001), it seems highly unlikely that greater extremity in an affective focus could account for the current findings. We also checked whether lower levels of ambivalence were related to enhanced response time in the affective focus condition, using the 'Griffin measure' of ambivalence ($\text{ambivalence} = (P + N)/2 - |P - N|$, where P denotes the strength of the positive evaluations and N denotes the strength of the negative evaluations; Thompson, Zanna, & Griffin, 1995). Although the difference was not significant, $F(1,63) = 2.83, p = .10$, the means suggest greater ambivalence in the affective focus condition ($M = 1.46, SD = 13.81$) than in the cognitive focus condition ($M = -3.22, SD = 13.70$). Thus, it seems unlikely that the faster response time in an affective focus can be ascribed to a lower level of ambivalence.

Table 3

Number of affect and cognition retrievals as a function of affective or cognitive focus

	Affective focus ($n = 39$)	Cognitive focus ($n = 36$)
Affect retrievals	1.56 (0.88)	1.53 (0.82)
Cognition retrievals	1.24 (0.75)	1.61 (0.55)

SDs in parentheses.

the salient information. Participants who were in an affective focus and who received positive affective information in combination with negative cognitive information had a more positive attitude than did those who read the same information but in a cognitive focus. Our findings therefore show that both memory and attitude formation are influenced by focus, and that an emphasis on affective or cognitive aspects results in a different overall attitude.

These findings extend what we know on the basis of previous research on focus effects. Whereas earlier studies showed that people could actively focus on either feelings or thoughts, resulting in different attitude–behavior relationships, the present findings show that it is also possible to activate affective or cognitive focus more unobtrusively. This unobtrusive activation of affective or cognitive focus not only influenced attitude formation; it was also shown to influence less explicit measures, such as response times and memory. Thus, the present study suggests that the previously observed effects of focus can be ascribed to making affective or cognitive characteristics of an attitude object more salient, resulting in an evaluation that is more likely to be based on these characteristics. Whereas in previous focus research the effects of cognitive versus affective focus might have reflected the activation of a transitory bias that would disappear over time, the present findings strongly suggest that the different focus conditions result in different attitudes being formed, and to more enduring attitude effects.

It is interesting that the present focus manipulation had more enduring effects on evaluations but affected memory temporarily. Whereas the immediate effects of focus on memory and evaluations could be ascribed to temporary differences in accessibility, this would not account for the more persistent effect of focus found on the attitude measures. This finding is reminiscent of previous research on first impression judgments, in which it was found that a second impression was based on memory of first impression judgments, rather than on the characteristics underlying the first impression (Lingle & Ostrom, 1979). Thus a global evaluation can persist over time, whereas the characteristics on which this evaluation is based decay quite rapidly.

As well as providing evidence that an affective or cognitive focus renders different dimensions of attitude salient, the present study demonstrates that focus can influence structural aspects of the attitude. It has been argued that affectively based attitudes have stronger object–evaluation associations (Fazio, 1995). Whereas previous findings (Verplanken et al., 1998) suggested that an affective context resulted in faster evaluations than a cognitive context, such results could also be explained by a difference in valence. In Verplanken et al.'s research the affective context consisted of valenced adjectives whereas the cognitive context did so less sys-

tematically. This difference might have been responsible for the faster responding in the affective context. The present findings demonstrate that an affective focus resulted in faster evaluative judgments without this confound of valence. The faster evaluations in the affective focus seem to reflect a greater accessibility of evaluations than in the cognitive focus. This would support the notion that one of the determinants of the strength of an object–evaluation association in memory is the affective basis of the evaluation. We also demonstrated that alternative explanations such as a more extreme evaluation or less ambivalence in the affective focus condition did not moderate the present effects (see Footnote 4).

Further research is needed to investigate alternative explanations and moderating factors. One alternative explanation for the present findings is that an affective focus leads to more heuristic processing, whereas a cognitive focus leads to more systematic processing. However, if this were the case one would expect the total amount of recall (including neutral memories) in an affective focus to be smaller as compared to a cognitive focus, which was not the case. We therefore find an explanation based on more heuristic processing in an affective focus less plausible.

Further, we found an asymmetry that suggests a possible moderating effect of valence. The effect of focus on evaluations was larger for Story 1, consisting of positive affective information in combination with negative cognitive information. This implies that the effect of focus is stronger when the affective information is positive and the cognitive information is negative. However, a difference in strength between the two stories could also explain this asymmetry. Although we pretested the strength of the attributes, Story 2, consisting of negative affective information and positive cognitive information, resulted in more positive evaluations. This might have attenuated the effect of the quite subtle focus manipulation.

Future research should seek to disentangle these two possible explanations. Further research is also needed to confirm the response time findings in other attitude domains and when using dichotomous reaction time measures. The paradigm used here offers a promising way of investigating the differential impact of affect and cognition on structural aspects of attitudes, and the present findings show that having an affective or cognitive focus leads to the formation of different attitudes.

Appendix A

Two stories described the Garuda. The first story had positive affective characteristics in combination with negative cognitive characteristics. The second story had negative affective characteristics in combination with positive cognitive characteristics. English translations of

the original Dutch texts are given below. Affective characteristics are shown in italics; cognitive characteristics are bold typed.

Story 1. Garuda-banabilus venivitalus. The Garuda is an animal that was discovered recently in the tropical rainforest of Brazil, South America. This mammal has a *soft fur* and an *adorable appearance*. Researchers discovered that **its faeces heighten soil acidity, resulting in less fertility**. The Garuda climbs trees. The animal has a *playful character*. The Garuda gives birth to an average of three cubs per gestation. It is estimated that the animal can reach an average age of twelve. The Garuda eats **among other things the bark of trees, which results in tree diseases in the area being more likely to take hold**.

Source: Winkler-Prins Encyclopedia, 1989.

Story 2. Garuda-banabilus venivitalus. The Garuda is an animal that was discovered recently in the tropical rainforest of Brazil, South America. This mammal has a *rough skin* and a *coarse appearance*. Researchers discovered that **its faeces heighten soil acidity, resulting in more fertility**. The Garuda climbs trees. The animal has a *retiring character*. The Garuda gives birth to an average of three cubs per gestation. It is estimated that the animal can reach an average age of twelve. The Garuda eats **among other things the diseased bark of trees, which results in tree diseases in the area being less likely to take hold**.

Source: Winkler-Prins Encyclopedia, 1989.

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