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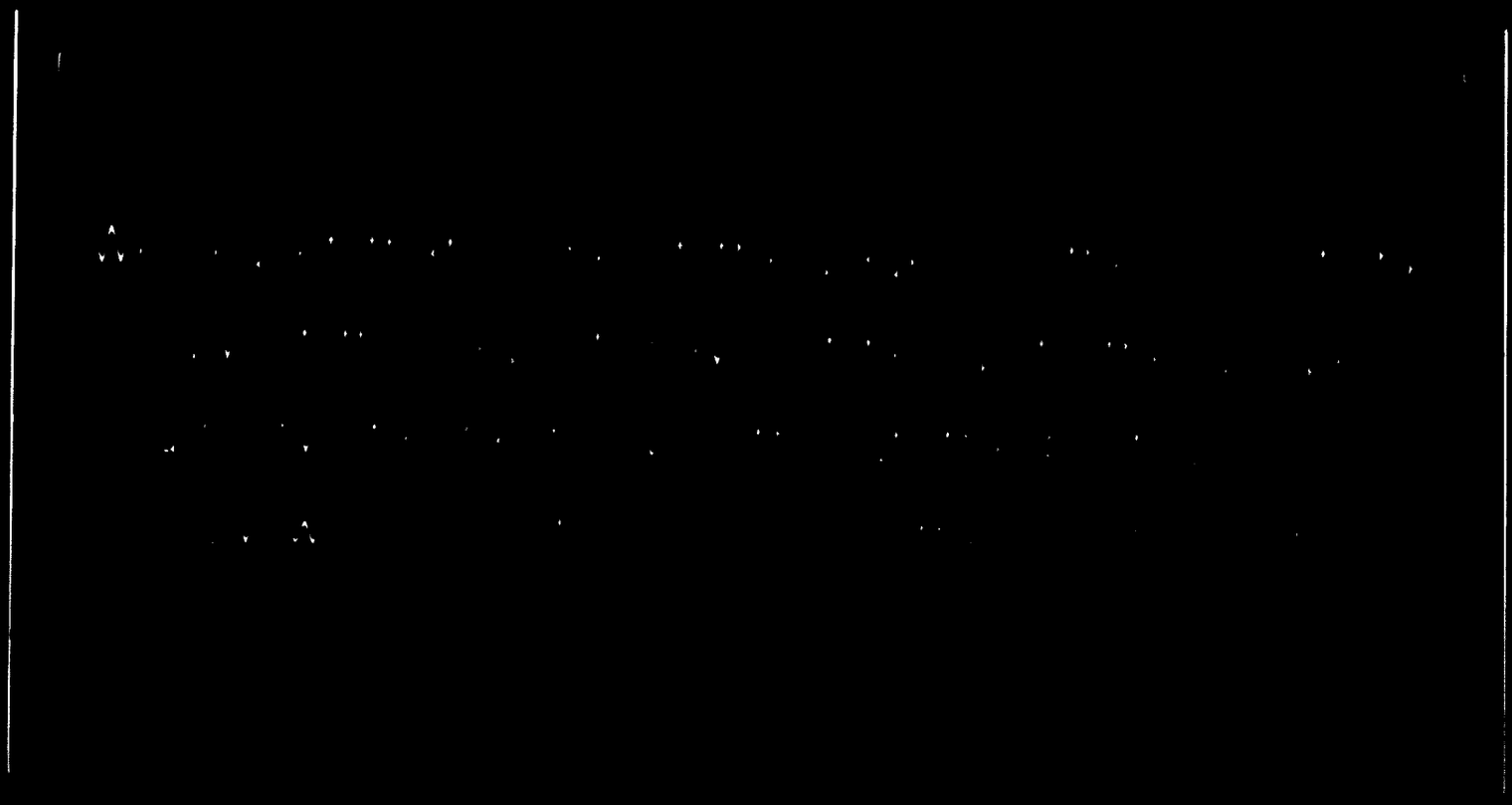
UNITED NATIONS INDUSTRIAL DEVELOPMENT ORGANIZATION
Vienna International Centre, P.O. Box 300, 1400 Vienna, Austria
Tel: (+43-1) 26026-0 · www.unido.org · unido@unido.org



07089

Distr.
LIMITED

ID/WG.228/2
8 June 1976

ORIGINAL: ENGLISH

United Nations Industrial Development Organization

National Consultations on Licensing, Patents and Transfer of Technology

Montevideo, ~~Uruguay~~
~~20 - 24 September~~ 1976

ROLE OF GOVERNMENT INTERVENTION IN TRANSFER OF TECHNOLOGY 1/

prepared by the

International Centre for Industrial Studies
UNIDO

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INTRODUCTION

During the past 10 years trading in technology gains in importance and volume rather rapidly thanks to its immediate effects on various fields in the overall economy and industry in particular of any country. Rapid industrialization both in the industrialized world as well as in the developing countries has caused a great demand for technologies, which were viewed as decisive elements for building new industries.

Such a trend holds already for a long time and analysis made covering a period from 1950 through 1970 shows that the overall volume of trading in technology grows two to three times faster than the world trade volume on a whole.

The conclusion may therefore be drawn that such trend will most probably also prevail in the course of the next 10 or even 20 years.

The share of developing countries varies from source to source but in general is estimated at something between 6 to 12 % of the world technology trade, which represented in 1972 some 6,5 billion US dollars.

No statistics are unfortunately available to analyse the growth trend of the share of developing countries in technology trading. Analysis based on individual examples shows however that the growth of technology purchase is actually similar in these countries to the overall growth of world technology trade.

On the basis of individual available statistics it might be stated that the share of developing countries in the overall world importation of technology is between 10 to 15% while their share in exportation would oscillate around 1 to maximum 2% only.

Furthermore it should be stressed that in principle all developing countries are dependent on foreign technology. This dependence will with great probability continue beyond the year 2000 due to the impossibility of developing countries to meet simultaneously demands for industrialization and indigenous research and development.(1)

The existing and future industries in developing countries will be based almost exclusively on foreign technology imported first of all from highly industrialized countries, mainly USA, UK, West Germany, Japan, Switzerland and France.

Finally, it should be underlined that on the average it is estimated that one US dollar invested in technology brings ca 10 US dollars in terms of production volume which alone shows the magnitude of the problem within the economics of developing countries.

Here it should be also mentioned that not always fair and non-restricted conditions prevail, upon which technology was and still is being imported by developing countries.

Such short and brief introductory remarks give a sound foundation for the growing governmental intervention in transfer of technology, which particularly in developing countries has been introduced for safeguarding the interest of national economies.

These and other reasons were also the basis of the motion towards the developing of an international code of conduct in transfer of technology, which to a degree is supposed to facilitate and support governmental intervention at the international level.

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(1) As a matter of fact it should be underlined that only USA is net exporter of technology.

GOVERNMENTAL REGULATION OF TRANSFER OF TECHNOLOGY IN SELECTED COUNTRIES

In principle three issues are usually lying behind government intervention in transfer of technology :

1. Protection of domestic industries and economy vis-à-vis not necessarily fair and unrestrictive practices of suppliers of technology and the need to lower the overall cost of technology inflow;

2. Channelling technology into preferential industrial sectors by setting up the necessary incentives and external and internal regulatory guidelines;

3. Promotion and encouragement of the flow of technology where desired securing necessary inputs into R&D efforts and securing simultaneously the full adaptation and absorption of technology by licensees.

A historical overview of the role of governments in the process of transfer of technology shows how distinctly this role has changed in the past ten to twenty years, both in industrialized as well as in developing nations. Trends and events are showing that despite the "liberalisation" of trade in general, the issue of transfer of technology is separated from the overall problems of commodity trading due to its enormous impact on many economic and industrial fields and administrative arrangements are introduced to increase rather the firm control and regulatory role of the governments over this type of transactions.

For the sake of information, a short description of regulatory or intervention systems will be given of some industrialized countries like USA, West Germany and Japan. This will be followed by a more detailed review of governmental regulation in India, Mexico, Argentina, Peru, the Philippines and Libya.

In the United States, intervention in transfer of technology and licensing in particular is based on the anti-trust legislation, that is mainly on the Scherman and Clayton Acts. In general, the following provisions included in licensing agreements will lead to government court action as they are considered illegal in the United States :

a. Tie-in-clauses forcing the licensee to purchase material and components from the licensor;

b. Limitation and restriction on the licensee's approaches as to other products and services or to obtain competetive technology;

c. Restrictive or limited use of patented material, which would create a monpolistic situation;

d. Package licenses including patent transfer not required by the licensee;

e. Price fixing;

f. Territorial restrictions within the United States;

g. Certain types of cross licensing procedures.

A number of decisions of US courts have lead in many cases to enforce transfer of know-how by the licensor whenever a misuse of the right of patent was found. As can be seen, government intervention in the US is based exclusively on the anti-monopoly doctrine and attempts of unrestricted trade and fair competition.

A different approach and solution has been adopted by Japan in the post-war time. Its government has, together with industry, recognized that vigorous introduction of foreign technology may rapidly boost the industrial growth of the country. For this purpose, however, the government had to play a regulatory role in order to control the flow of technology and to secure its maximum benefit both for a given investor as well as for the country.

Japan therefore adopted a system, which requires governmental approval of all technology agreements including their extension and/or modifications. Such an approval is granted by the Bank of Japan for payments not exceeding 50,000 US$. All other cases are referred to the Ministry of International Trade and Industry (MITI), which after consultation with other bodies concerned, issues a decision within 30 days. It should be stressed however that concerning the terms of

licensing agreements, no rules have been published or guidelines established. All judgements are made on a case-to-case basis by the competent authorities in each respective field. Close co-operation between the Government and industry has ensured that this regulatory policy has functioned in the best interest of industry and the country's overall economy.

In West Germany, similarly to the United States, any government intervention is based on anti-trust legislation of the Common Market of which this country is a member. Originally, anti-trust legislation has been limited to various buying and selling arrangements. Recently, however, the Commission of the Common Market in Brussels has also taken up the subject of licenses and other transfer of technology agreements.

At present, the Commission of the Common Market is in the process of formulating more precisely which provisions can be included in licensing agreements and which are illegal.

The basic fact for the above-mentioned considerations is Article 85 of the Treaty of Rome, which says that practices "likely to affect trade harmfully between member states and which have the object or effect of preventing restraining or distorting competition" are not permissible and illegal.

The countries of Latin America have been particularly active during the last five years in regulating and controlling the inflow of technology into their industries.

While India is well advanced in these matters, there is the feeling that a new dimension has been introduced by some Latin American countries in this particular field.

For the purpose of this paper detailed analysis will be provided for Argentinian and Mexican systems as well as Andean legislation, in addition to a short description of the administrative system prevailing in India.

Two laws were enacted in Argentina in 1971, law n°19135, prohibiting the imposition of certain restrictive conditions on the automobile industry, and law n° 19231, which restricts the regulation of agreements for foreign technology and patents and creates a national registry for all such agreements. These laws stipulate that contracts will not be approved if they contain clauses which, among others, force the purchase of equipment, raw materials or components from certain aspects, restrict export, include unreasonable grant-back provisions, provide trade-mark licensing without know-how, impose jurisdiction of foreign courts or require unreasonably high payments.

A new law, n° 20794, was issued in late 1974 in Argentina replacing the earlier ones, the main provisions of which are contained in article n° 5 (stipulating which contract approvals will be rejected), and article n° 6 (enumerating restricted clauses, which cannot appear in contracts). To the most interesting provisions of the law belong the conditions stipulated in article 6, which says that "the authority of application may deny the approval of any contract governed by the present law when the acquisition of the technology in the proposed manner produces directly or indirectly any of the following effects:

(a) establishes the obligation of acquiring raw material, intermediate products or capital assets from specific origin or source of supply;

(b) regulates, alters or limits production, distribution, marketing or exploitation; or the distribution of markets or the execution of any of them;

(c) establishes resale prices to wholesalers or retailers;

(d) exempts foreign contracting parties from their liability in the event of action by third parties,

(e) prohibits the licensee from employing other designs, processes, production material, equipment or other goods different from those mentioned in the proposed contract,

(f) establishes rules limiting or subjecting to the licensor's approval the publicity or advertising,

(g) imposes on the licensee the obligation of contracting personnel to be appointed by the licensor [2]

The law provides for the obligation that contracts and their amendments or extension should be submitted within thirty days after signature to the National Registry for License Contracts and Transfer

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2) The text of the law is being reproduced according to "Les Nouvelles", March 1976, Vol.No.10 no 1

of Technology (created by Law no 19231 of 1971).

For non-observing the rules of the law, a number of penalties have been foreseen. An interesting novelty in this law is the article n° 33, which opens the possibility of getting advice from the National Registry on agreement conditions prior to official submission for approval and registration. This way, the legislation gives the opportunity for extra negotiations with foreign partners and local entrepreneurs.

The Mexican legislation introduced as from January 1, 1973, provides for the creation of a national registry of technology transfer. The law was prepared after very extensive discussions and assessment of the experiences of Argentina, Japan and other countries in this field. The basic orientation of the Mexican technology transfer policy derives from fundamental principles in economics and international relations. The Mexican legislation in this field is oriented towards the development of an efficient and rationalized process for technology importation. Although there is recognition of the country's dependence on foreign technology an important objective of this legislation is to gain a degree of control over this major import, both in terms of cost and technological impact. 3)

The law requires that all agreements must be examined by the National Registry of Technology Transfer, and it goes into considerable detail to enumerating the kind of restrictive practices that must be eliminated from the contract:

The most important article of the law stipulates that the following contracts will not be registered (see article 7):

1. When their purpose is the transfer of technology freely available in the country, provided this is the same technology;
2. When the price of consideration does not represent the technology acquired or constitutes an unjustified or excessive burden on the national economy;
3. When provisions are included which permit the supplier to regulate or intervene directly or indirectly, in the administration of the transferee of the technology;

4. When there is an obligation to assign onerously or gratuitously to the supplier of the technology, the patents, trade-marks, innovations or improvements obtained by the transferee;

5. When there is an obligation to acquire equipment, tools, parts, or raw materials exclusively from any given source;

6. When the exportation of the transferee's products or services is prohibited against the best interests of the country;

7. When limitations are imposed on technological research or development by the transferee;

8. When the use of complementary technology is prohibited;

9. When there is an obligation to sell the products manufactured by the transferee exclusively to the supplier of the technology;

10. When the transferee is required to use permanently personnel designated by the supplier of the technology;

11. When the volume of production is limited or sale and resale prices are imposed for domestic consumption or for exportation;

12. When the transferee is required to appoint the supplier of technology as the exclusive sales agent or representative in Mexico;

13. When an unreasonable term of duration is established; such terms shall in no case exceed ten years;

14. When the parties submit to foreign courts for decision in any controversy in the interpretation or enforcement of the foregoing acts, agreements or contracts.

The law, however, taking into account a need for elasticity and facts of life, provides for the possibility of approving contracts including clauses as stipulated under article 7, points 1 - 14. No exception, however, exists for the sections 1,4,5,7,13 and 14 of this article. Mexican legislation requires compulsory registration of all contracts being in force at the date of introduction of the law and those contracts which have been concluded both before and after this date.

Usually the National Registry is obliged to issue its decisions within 90 days of the submission date.

As may be seen from the above short review of the Mexican legislation, it gives the Government the power to determine the registration, evaluation and acceptance or denial of contractual transactions that take place in Mexico.

A second principle is to safeguard national economic and technical autonomy.[3] This explains why the basic criteria for determining the acceptance or refusal of technology contracts take into account the national objectives and legislative norms and procedures existing in the country.

The Mexican law bears a number of similarities with the legislation of Argentina, systems in Japan and decision no 24 of the Junta Cartagena. However, a basic distinction should be underlined, which is that the aspect of foreign exchange control is not the central issue. Contrary to the Argentinian law of 1971, Mexico registers agreements between nationals or persons settled in Mexico and agencies or subsidiaries of foreign companies.

A distinctive element of the Mexican law is that it gives the right to foreign-based licensors to request the registration of contracts of which they are parties. The most important element is that the legislation covers compulsory registration for all existing contracts (article 2 of the law).

A different approach of a more administrative nature has been adopted in India and some other countries like Pakistan, Egypt and Indonesia.

India for years has been known for its administrative guidelines and regulations concerning technology transfer, which has enabled the Government to exercise more or less firm control over technology importations. According to one source [4] something like 2,000

3) "The Mexican law of Technology and Transfer and its Impact on the Nat.Economy", by E.Aguilar
4) "Foreign Licens.Agreements and Experience in Developing Countries w.Special Ref.to India" by Dr. C.V.C. Ratnan, presented at UNIDO Seminar in Manila, 1974

agreements have been signed in the past 27 years in India involving so-called foreign collaboration, which is the term usually covering licensing and know-how agreements.

Actually, India has adopted the following administrative system and procedure for approval of all contracts involving foreign technology: within the Ministry of Industrial Development there is the Secretariat of Industrial Approvals composed of three committees :

(a) The Licensing Committee;
(b) The Foreign Investment Board;
(c) The Project Approvals Board.

All applications for acquiring a license have to go through these committees before the Government gives the so-called letter of intent to the industry, thus enabling it to start negotiations with a foreign company. Generally, the current guidelines for foreign licensing agreements in India are as follows :

1. If a certain technology is available in the country the same technology should not be imported;
2. If a certain technology can be bought by fixed payment, this should be done. Equity participation is not encouraged;
3. License fees should be reasonable;
4. Royalties, if any, should normally not exceed a five-year period and 5% of the sales value of the product;
5. When technology is imported, the supplier of technology is obliged to associate himself with one of the national R&D institutions so that at the expiration of the agreement the country will be self-reliant with regard to the technology;
6. As far as possible, restrictive clauses concerning sublicensing and exportation of goods manufactured under license should be eliminated;
7. Whenever substantial exports are involved, some of the above-mentioned provisions are relaxed, as one of the important objectives of the Indian Government is encouraging exports;

8. Under special circumstances involving sophisticated technology, special conditions beyond these guidelines are possible. [5]

In Libya, on the basis of the scarce information, matters related to transfer of technology agreements are subject matter of scrutiny and evaluation by the General National Organization for Industrialization.

This specialized office deals in principle with all industrial and technological undertakings and has developed a certain amount of expertise to evaluate and scrutinize transfer of technology agreements either within the frame of turnkey deliveries or as separate agreements.

The basis for the GNOI's consideration seems to be the principle of safeguarding national interests vis-à-vis foreign investors and technology suppliers. As far as it is known, no internal guidelines have been developed for evaluating purposes and the office carries out its duties mainly on a case-to-case basis.

GOVERNMENT INTERVENTION AND TECHNOLOGY TRANSFER

As may be seen from the previous chapters, number of countries have introduced some form of governmental intervention in transfer of technology for a variety of reasons. The basic reasons behind this motion have been, to a degree, enumerated in the introductory part of this paper; nevertheless some of these are worth a closer look.

First of all the total of payments for technology by developing countries is relatively high and amounts to some 400 to 700 million dollars annually, which in itself is an enormous amount. Secondly, and this element is considered as of far greater significance, the developing countries were and are going to be, for the next 20 years at least, dependent on imported, foreign technology.

The general reason for it is, that the colonial past of most of these countries and the first years of independence have not created favorable conditions for a normal evolutionary process of economic development.

The colonies were supposed to provide raw materials both natural and minerals and cheap labour force. No major effort was made to invest either in the intellectual or in the industrial infrastructure of these countries and when independence had been achieved, these countries found a full array of all sorts of economic, political and other problems with no real means and experience as well as possibilities to solve them. The natural trends towards industrialisation lead often to ill-designed industrial undertakings, overspending and wrong investments etc..

On top of this, technology brought into these countries has, in many cases, been acquired on unfair and restrictive conditions. A major analysis undertaken by the Mexican Registry for Transfer of Technology (based on a review of some 2,500 technology contracts) established the following list of the most frequent restrictive and unfair contractual provisions :

1. Application of excessive prices or overpricing of the cost of technology;
2. Excessive duration of contracts related to market value and novelty of the technology in question;
3. Limitations imposed on production and on sale; fixing the prices;
4. Limitation of licensee research and development activities;
5. Grant-back provisions concerning licensee improvements;
6. Limitations on export of products manufactured by the licensee.

This analysis of the most frequent illegal and restrictive provisions could no doubt be found in other developing nations as well; acquisition of technology on such conditions makes impossible the full use of technology and severely limits the advantages and

merits of these transactions.

Bearing therefore above in mind, the first aim of government intervention will be to protect the legitimate interest of national economy vis-à-vis suppliers of technology by defining clearly, inter alia, the general conditions on which technology should be imported.

National industry of any developing country is usually too small and inexperienced in dealing with big foreign companies and therefore at the early stage of its development the government has the obligation to participate directly in this type of activities.

Secondly, in the light of all amount spent on technology acquisition, the governments should influence the direction and priority branches where technology should be channelled. This is an extremely important prerogative of a government of any country and as such should be fully understood.

Furthermore, governmental intervention should also be directed towards securing that technology is being quickly, effeciently and fully adopted and absorbed by local industry. This aim of a government will no doubt require great efforts and deliberate actions as well as willingness both at the end of the licensor as of the licensee. The results on the other hand would not be spectacular and might be expected only in the long run. Experience, however, has shown (Japan) that this element of governmental intervention belongs to the pillars of industrialization and modernization of national economy.

Last but not least element of governmental intervention is the effort towards securing, by thorough selection of imported technology, the proper inputs to local, indigenous research and development efforts.

Here in particular, support and understanding of government policy by the national business and scientific communities are essential and very much needed.

The government intervention stems from overall policy on development and in particular from overall policy on technology. The latter one should be subordinated to overall objectives of developing policy and simultaneously form its integral part.

In number of countries reasons for government intervention vary. In industrialized countries it is often the need to protect the principle of free trade and free competition and here modern governments have an important role to play. In Japan, the government together with industry undertook a task to rebuild quickly and efficiently the post-war economy. For this purpose government protection, support and intervention have been greatly needed. In nowadays Japan, government intervention is more and more based on efforts to protect free trade and competition, rather than to protect its industry and the intervention of MITI is more similar to EEC rules.

Within developing countries the government role is still more oriented towards protection of its own industry and to stimulate its fastest possible growth. Objectives of such exercises are therefore more similar to Japan's experience in the early postwar days; it could be said therefore that if development will follow the same pattern (however under entirely different conditions and in a different environment), one would most likely observe that government intervention in transfer of technology forms only a temporary stage in government participation in industrial development.

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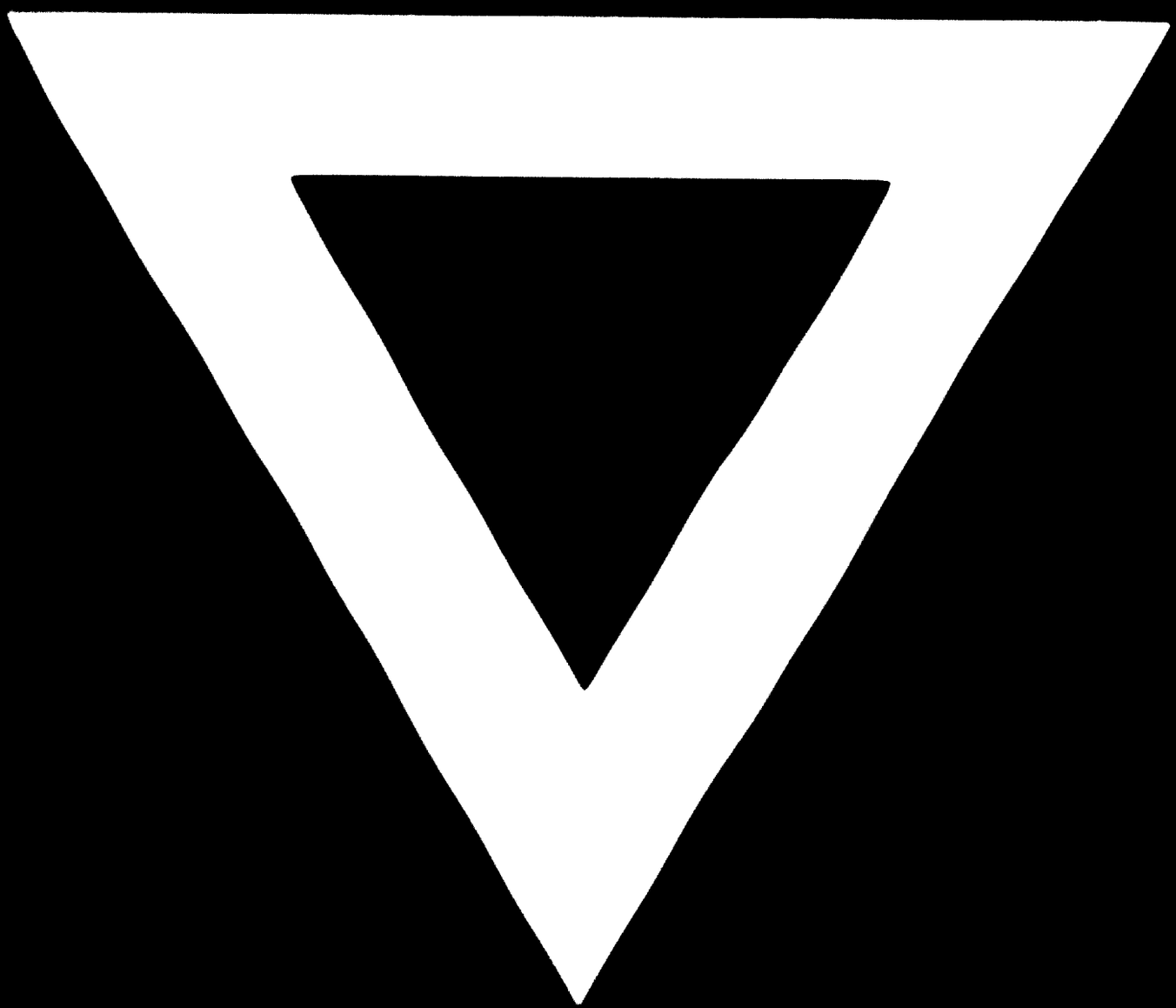

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