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CENTRAL INTELLIGENCE AGENCY
WASHINGTON 25, D. C.

DEPARTMENT OF STATE

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26 March 1954

DEPARTMENT OF STATE

MEMORANDUM FOR:

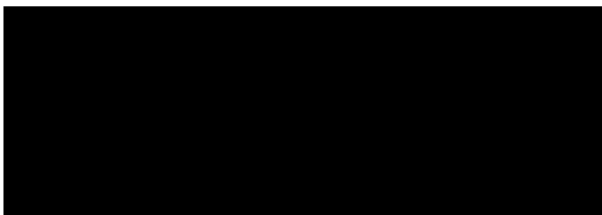
Mr. R. Gordon Arneson ✓
Mr. Charles A. Strange
Dr. A. K. Brewer
Col. George McCord
Dr. Charles Reichardt
Mr. Olin Adams
Col. Orin H. Moore
Mr. S. M. Kuhrtz

Retain class'n Change / classify to _____
 With concurrence of CIN
 Declassify In part and excise as shown
EO 12958, Sec. 1.3 (a) (_____)
FPO/HDR by SK 9/27/54
Withdrawal No. 455-2

SUBJECT:

Report on Current Status of Research
on Yugoslavia.

Attached for your retention and information is
a report on the current status of research on
Yugoslavia.



SPECIAL ASSISTANT TO THE SECRETARY

S/AE

MAR 29 1954

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*4/14/54 att only
to ESI, Nancy*

APPROVED FOR RELEASE
DATE: DEC 2001

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YUGOSLAVIA

A. General Outlook:

Research activities in the nuclear physics field began in Yugoslavia after the end of World War II, about the time of the Tito-Cominform break, with the establishment of the Boris Kidric Institute at Vinca. Pavle Savic, one of the few Yugoslav scientists who had worked in the nuclear physics field before the war (in France with the Joliot-Curies) was instrumental in having this institute built. Since that time two additional nuclear research institutes have been established, one at Zagreb and another at Ljubljana.

These institutes are not atomic energy centers, but rather research institutes where personnel are trained in nuclear sciences. Research work is limited to fundamental studies.

There is talk of a nuclear reactor being built in Yugoslavia, but little can be accomplished along this line for some time because of the lack of sufficient raw materials, personnel and money.

Exploration for uranium ore is being conducted as well as some mining and concentrating. The production of uranium ore at the present time is sufficient only for experimental purposes. Uranium reserves are not believed to be significant (i.e. sufficient only for research needs).

Yugoslavia's major activity in the field of atomic energy will be participation in CERN (European Council for Nuclear Research) in which several of her top nuclear scientists are taking an active part.

The top people in the nuclear energy field in Yugoslavia at the present time are:

- Pavle Savic
- Stefan Dediđer
- Robert J. Walen
- Anton Peterlin
- I. Supek
- Dragoljub Jovanovic

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B. Institutes:

1. Boris Kidric Institute

The Boris Kidric Institute (formerly known as the Institute for Research of the Structure of Matter, and popularly referred to as the Vinca Institute) is located about 20 kms southeast of Belgrade between the main road to Smederevo and the Danube River at the village of Vinca.

In May 1948 it was reported that:

- 1. the construction of the Institute was begun in the fall of 1947 upon Soviet instruction;



2. it was the Soviet intention to make it a branch of the Moscow Institute of Physical Problems, and for this reason several Soviet scientists who had worked with Peter Kapitza at the Moscow Institute were sent to the Yugoslav Institute;

3. the enterprise enjoyed unlimited credits, both Russian and Yugoslav.

4. research began in the early part of 1948.

In June 1948, after the Tito-Cominform break, all the Soviet scientists returned to Moscow, leaving Savic and his Yugoslav co-workers to carry on.

Savic is reported to have convinced Tito of the importance of continuing the project and the need for the establishment of a nuclear research institute in Yugoslavia. By 1951 two laboratory buildings were completed and in use, as well as several houses for the student's living quarters. The Institute now consists of about 30 buildings which are grouped around the main research station. The main research station has the following sections:

1. Administrative Section
2. Chemical Research Laboratory
3. Physics Research Laboratory
4. Library

Other buildings include staff quarters, recreation rooms, dining rooms, clinic, and a swimming pool.

Savic was referred to as Director of the Vinca Institute until 1952 when Stefan Dedijer's name became associated with this position.

Top personnel at the Institute at the present time are:

Director:	: Stefan Dedijer
Head of Physics Section:	: Robert J. Walen or D. Arseniovic
Head of Chemical Section:	: Pavle Savic
Head of Applied Mathematics Section:	: Dusan Mitrovic

In January 1953, approximately 80 young scientists and technicians were at the Institute.

At the Institute research is undertaken in mathematics, chemistry, biology, and physics. Current research by sections is as follows:

1. Physics: Making counters; producing small amount of radioactive isotopes (e.g. Carbon-14) using a radium-beryllium source (some isotopes are imported from the U.K.). Research is in progress with heavy water (200 kg. obtained from Norway) in the separation and low temperature catalysis of parahydrogen; in the growth of crystals for scintillometers.

2. Chemistry: Have some resin-ion-exchange columns for experimental separation of uranium from rare earths; also working on analytical methods of preparing uranium nitrate and of ether extraction of uranium from materials (probably including ores).
3. Biology: Some research with Carbon-14 and making some tissue-exposure studies.
4. Mathematics: Have completed research, made a model, and started construction of a digital computer (will be able to solve equations with 30 unknowns).

Equipment at the Institute includes a 1.5 Mev Cockcroft-Walton Generator; Wilson cloud chambers; proportional counters, and a mass spectrometer (Nier type). Most of this equipment has been imported, but efforts are being made to be self-sufficient by making as much equipment as possible at the Institute. Shop facilities are well equipped with power tools, mainly of German and Swiss make. The library is small but well arranged, with card catalogs and ample reading rooms.

The UDB maintain a permanent staff at the Institute to check on all personnel employed. A special pass is required to enter and leave the site. As far as is known, only one road leads into the site. This connects with the road which runs from Vinca to the Belgrade-Smederevo highway. Workers and students at the Institute are encouraged to live on the site with their families. However, due to insufficient accommodations, some of them have to commute from Belgrade by special bus.

2. J. Stefan Institute for Nuclear Research, Ljubljana.

The J. Stefan Institute is under the direction of Prof. Anton Peterlin. Research is concerned with:

- (a) medical aspects of atomic energy - radioactive tracers obtained from the U. K. are employed in this program;
- (b) construction of a 2 Mev Van de Graaff generator, which they hope to complete by early 1954;
- (c) using a radium-beryllium source to irradiate silver and training students to measure decay of known periods to familiarize them with counting techniques.

The Institute at Ljubljana is still very much in the throes of getting started. There is little know-how, very little apparatus, but considerable drive and keeness. It is occupied with fundamental problems and training of scientific personnel. The Institute is eventually to become the medical and biological research center for the nuclear energy field in Yugoslavia.

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3. The Zagreb Institute for Nuclear Research.

The Zagreb Institute is under the direction of Prof. I. Supek. It is principally concerned with theoretical work in nuclear physics. No other information is available on the Institute.

4. Institute for Geological, Mining and Technological Research, 6/1 Nemanjina St., Belgrade.

The only information available on this Institute is that it has obtained, from U. S. manufacturers, gamma survey meters for preliminary fieldprospecting for radioactive ores, and decade scalars used in laboratory tests of representative ore samples. Top personnel are reported to be Dusan Radiosimovic and Nada Vunjak.

C. Minor Organizations Involved:

1. Radio School, 43 Timocka Street, Belgrade.

This school provides a six months' course on radioactive ores. Students are trained to use geiger counters and given the title "prospector" upon graduation. The director of the school is Marinkovic, (fnu).

2. State Service for Atomic Energy Research, 99 Kneza Milosa St., Vinkovic.

The only information available that mobile crews of the Service are engaged in prospecting for radioactive ores.

D. Relations with the USSR

1. SEE Boris Kidric (Vinca) Institute; B-1.
2. SEE Pavle Savic - Personnel
3. A party of four Soviet and two Yugoslav experts explored the marshes near "Mostar", Yugoslavia in April 1948 for the presence of uranium. These experts, who were at the Hotel Neretva, Mostar, on 8 April 1948 were:

Prof. Kalatchov) Soviets	Prof. Dernisevic) Yugoslavs
Prof. Starikin*		Prof. Stanic	
Prof. Viltchinsky			
Prof. Ishora			

Examination of the marshes failed to yield positive results.

4. In September 1950, four Yugoslavs (Prof. Rista Illic and three members of his family) and one Russian were on trial in Yugoslavia. One of the charges brought against the accused was that they had passed atomic energy secrets to the USSR. The information passed on to the USSR

* May be Josef Lvseevich Starik, geochemist from the Radium Institute.

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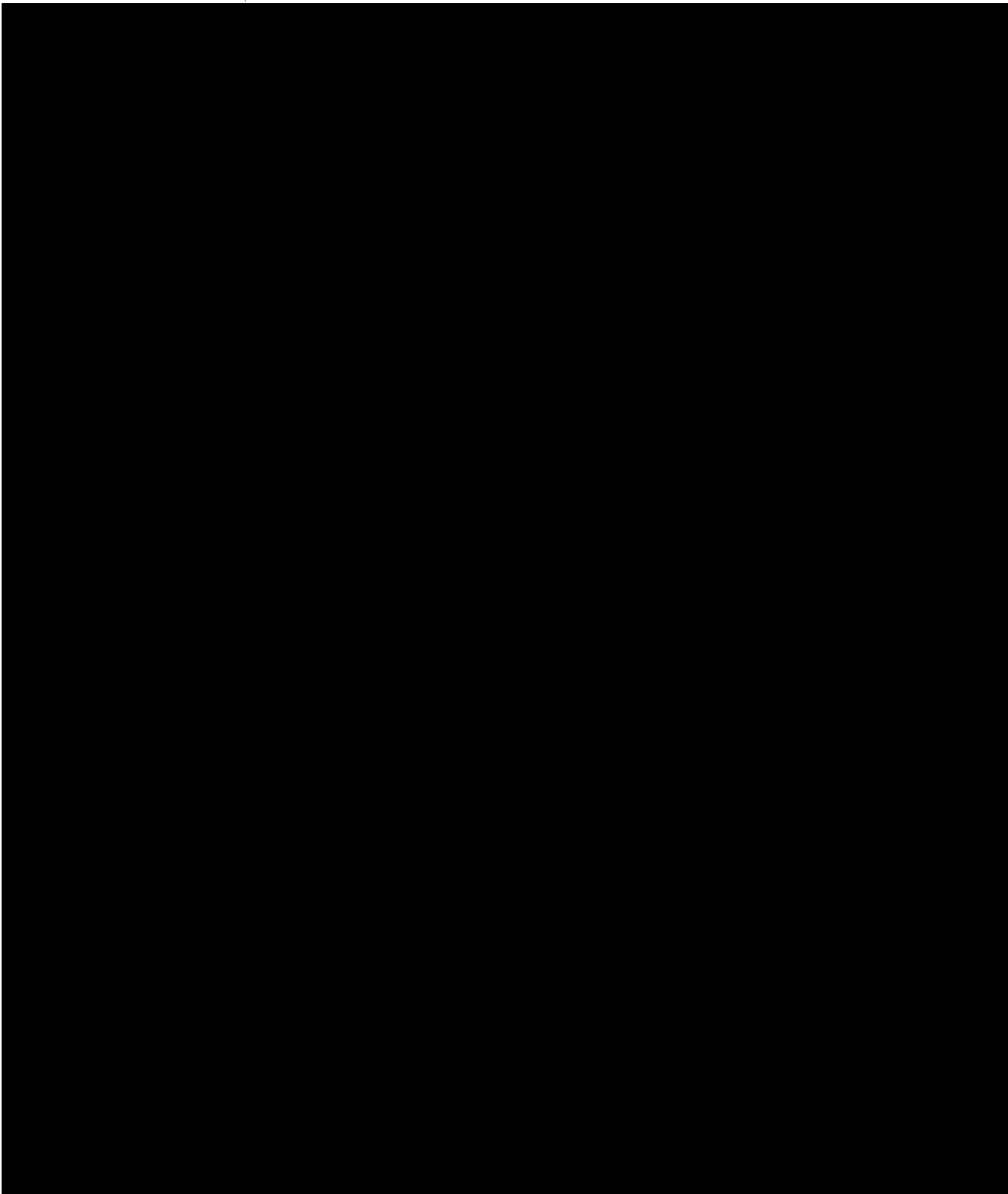
was supposedly being used by the USSR to make up slanders and provocations against Yugoslavia.

COMMENT: A former member of the Yugoslav Industrial Ministry who fled to the West stated that the USSR had never transmitted scientific knowledge to Yugoslavia, nor did it allow Yugoslavia to involve her industry in such projects as atomic energy or V-2 activity. Source believed that the accusation against Illic was purely propaganda designed to impress the outside world.

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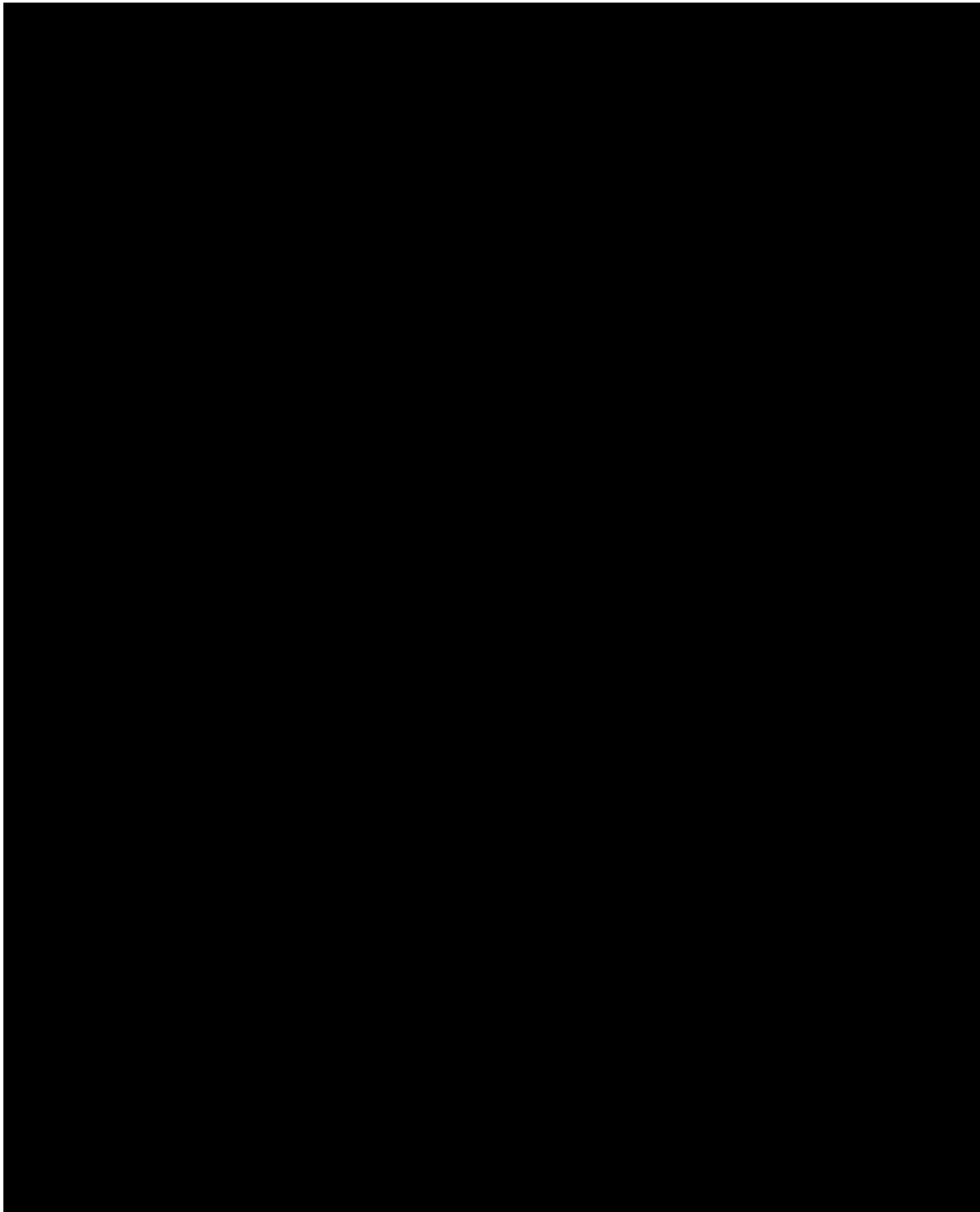


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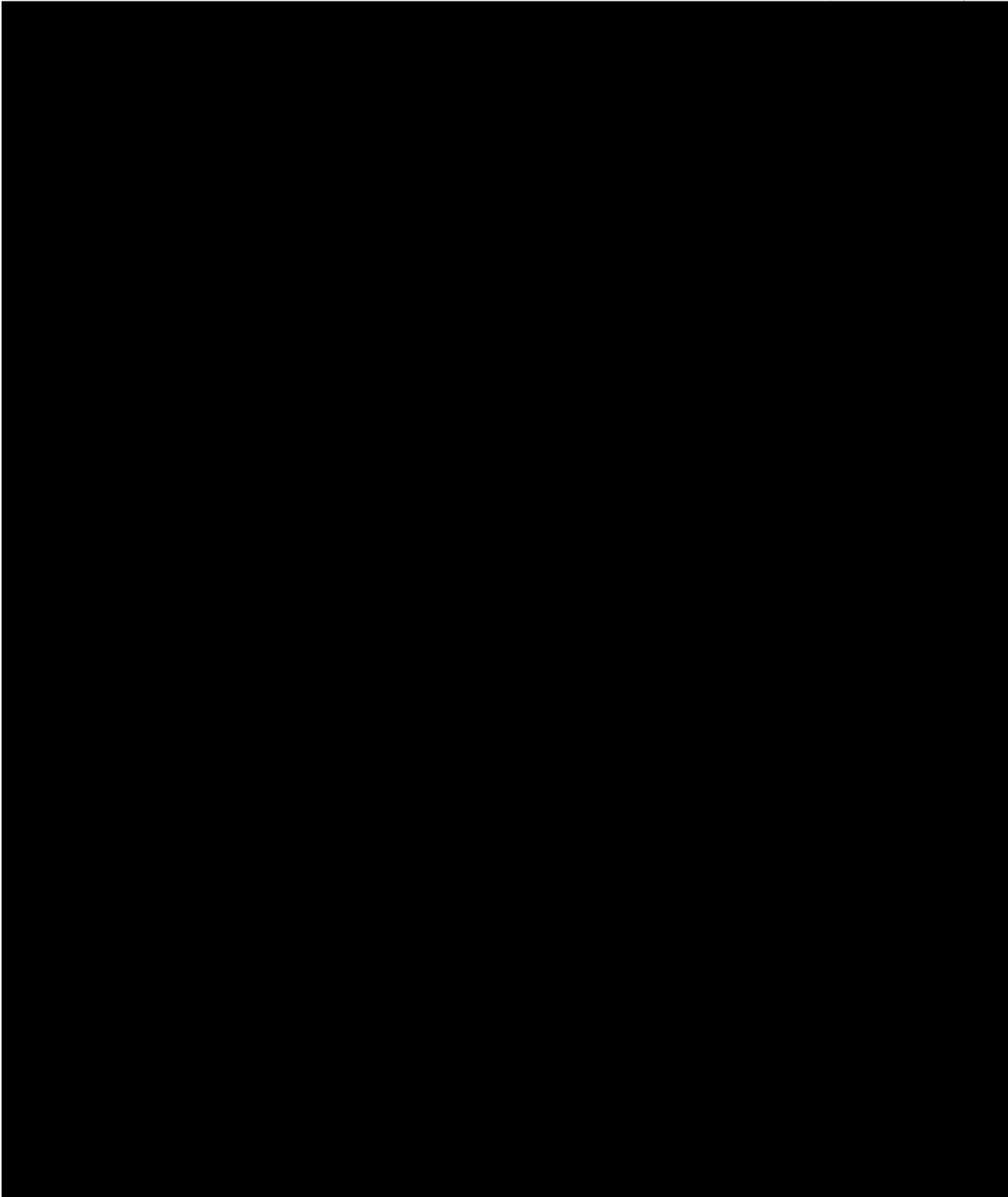
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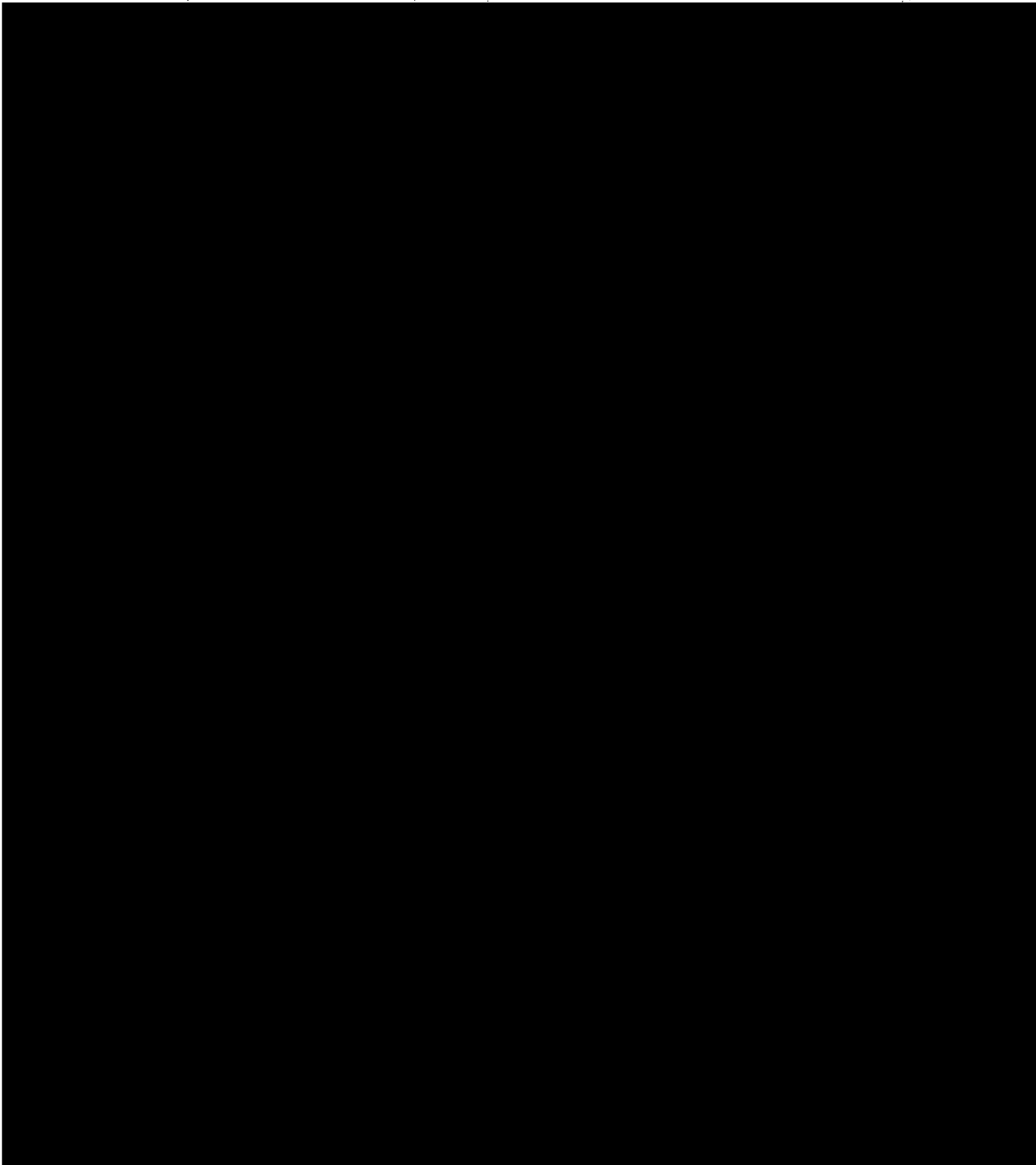


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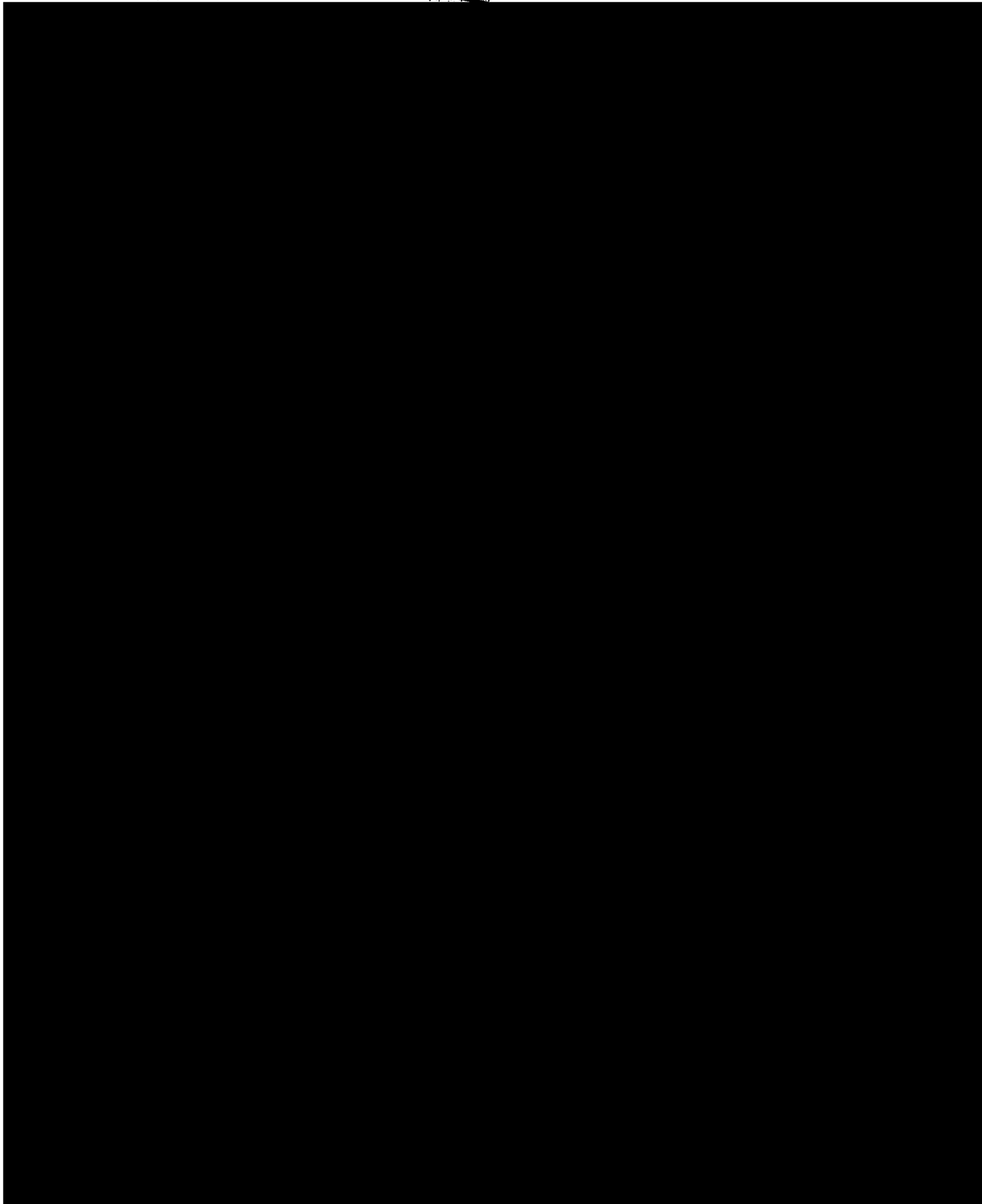


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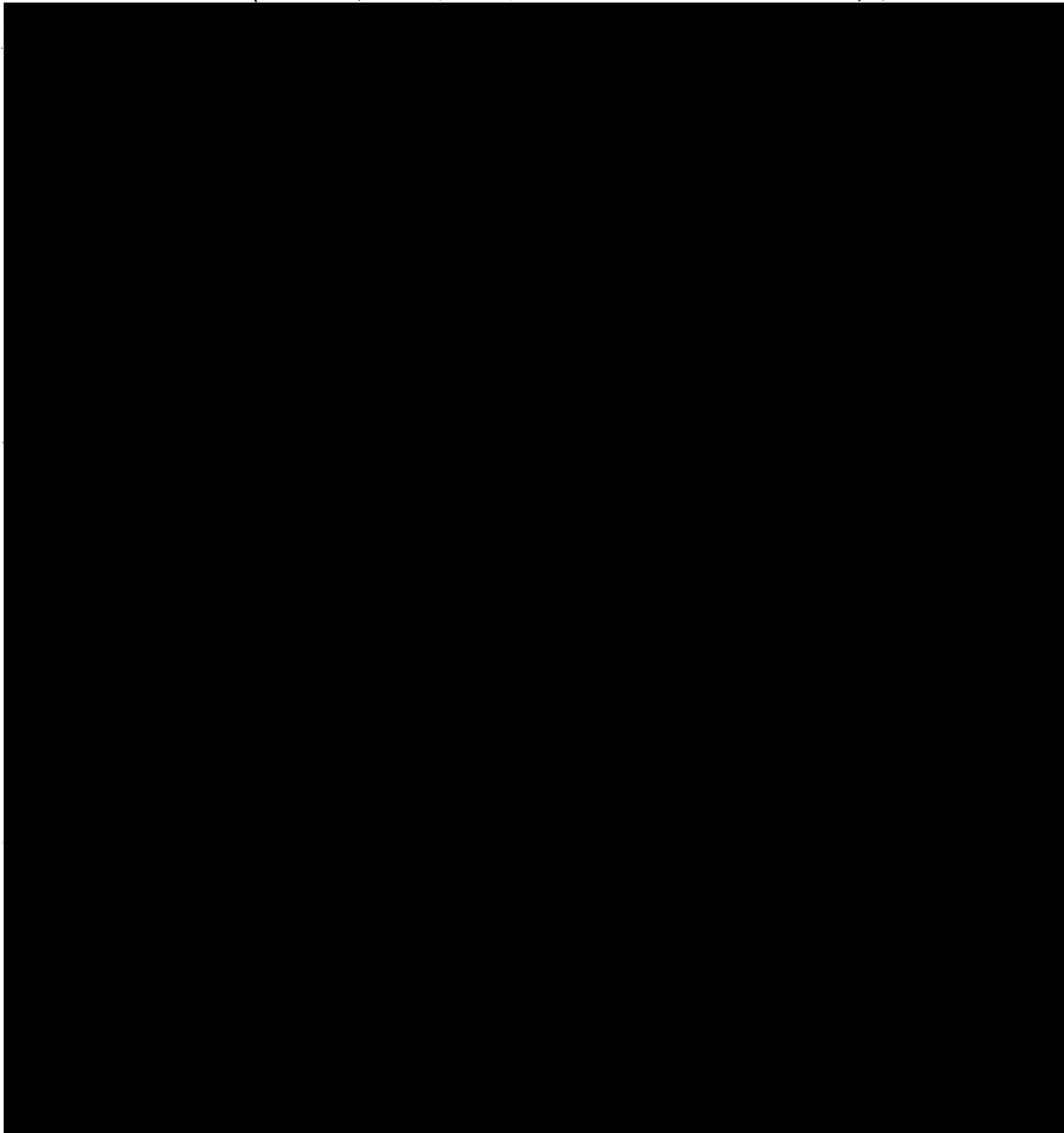


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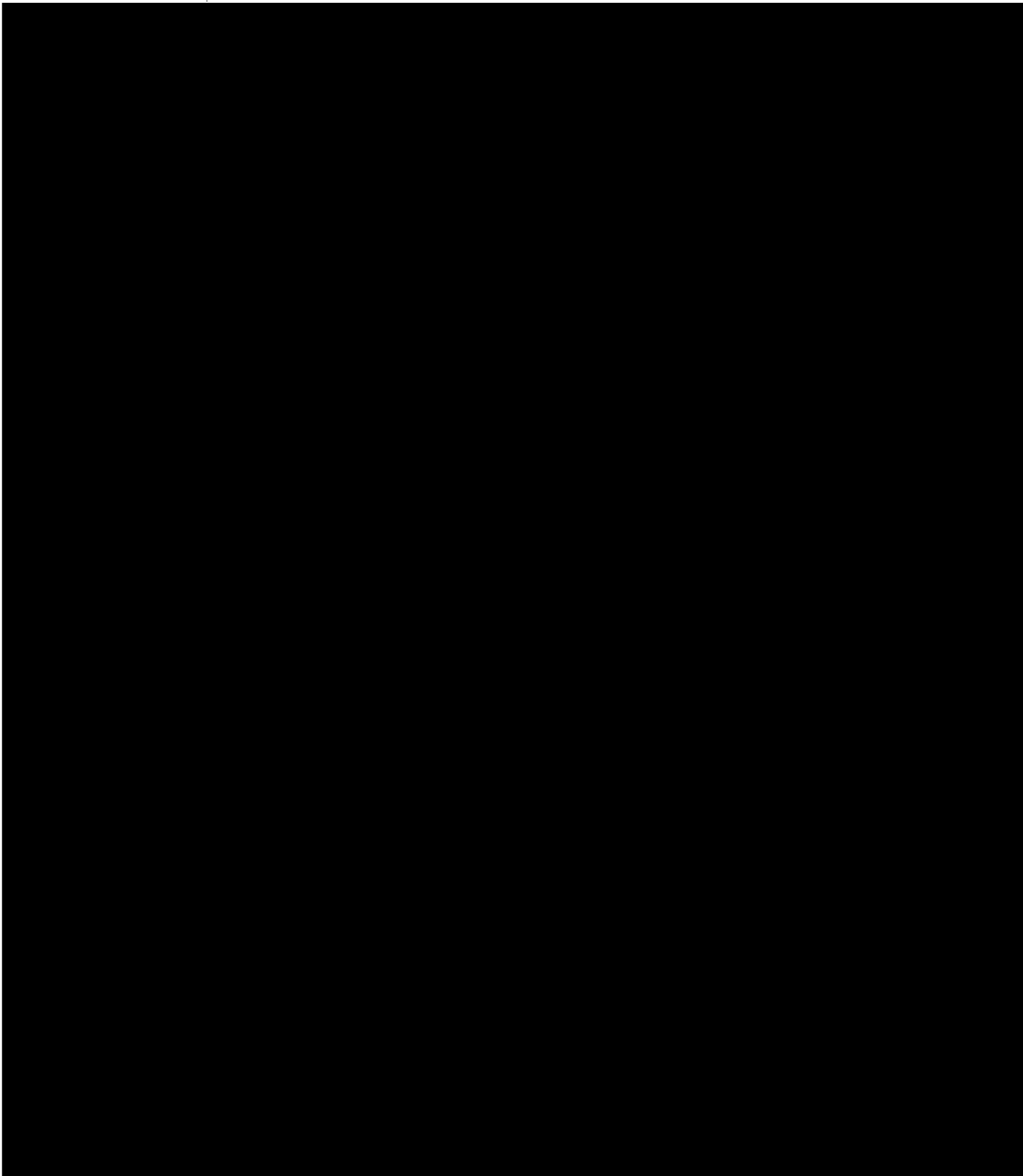


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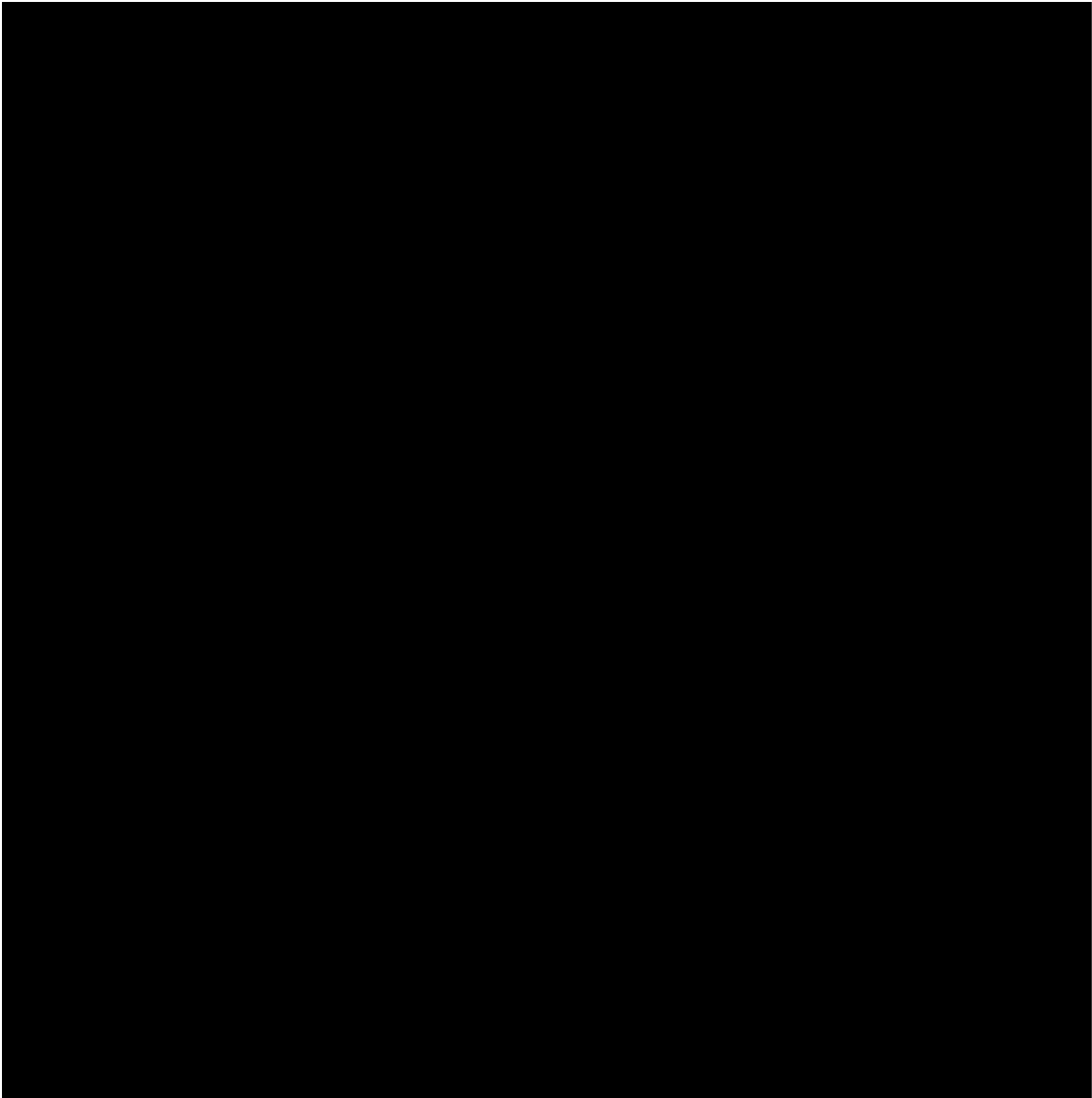


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