

**SCHWEIZ. TOXIKOLOGISCHES INFORMATIONSZENTRUM  
CENTRE SUISSE D'INFORMATION TOXICOLOGIQUE  
CENTRO SVIZZERO D'INFORMAZIONE TOSSICOLOGICA  
SWISS POISON INFORMATION CENTER**

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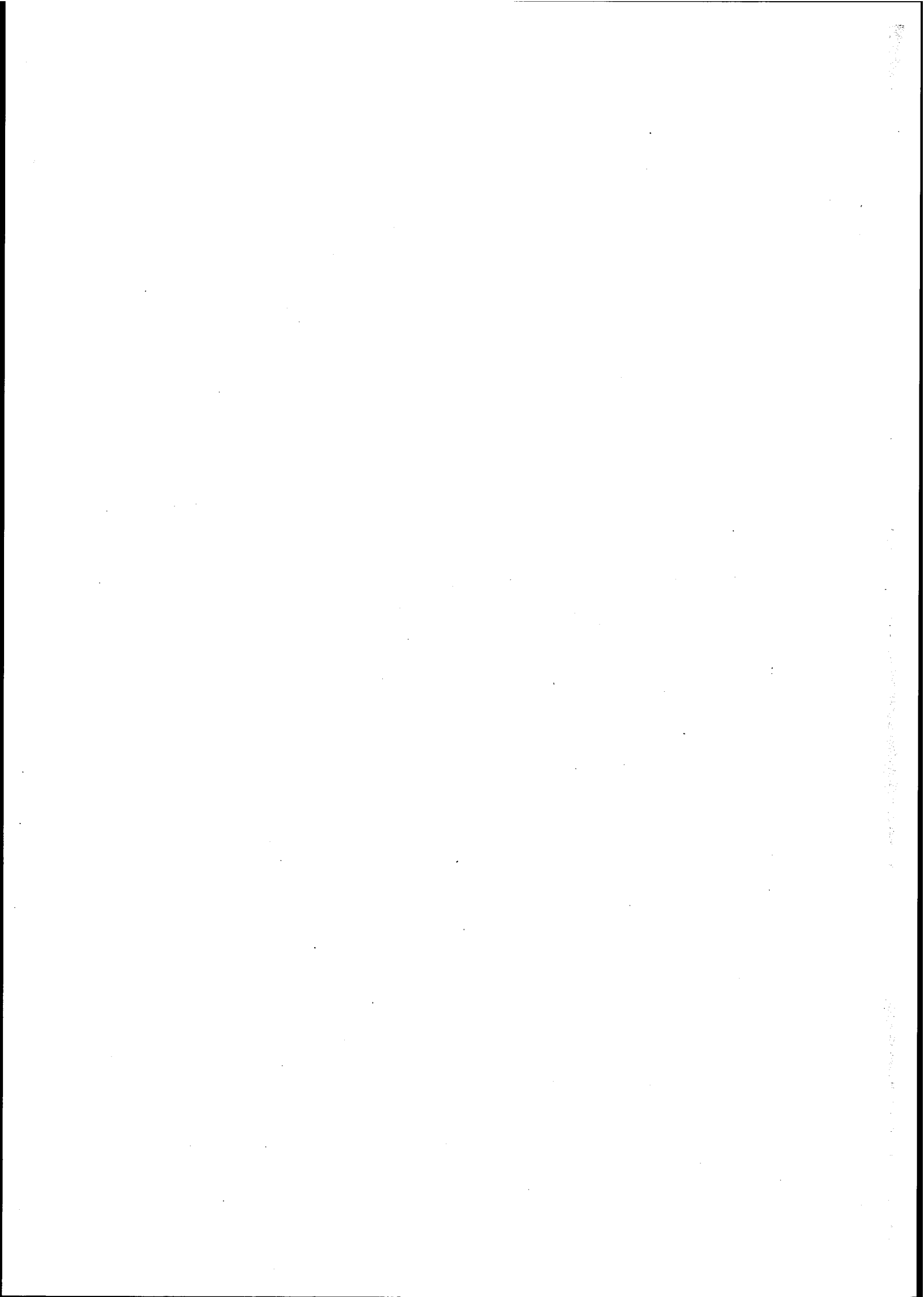
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Annual report 1968





Medical report  
on the activity  
of the Swiss Toxicological  
Information Center



# Medical report on the activity of the Swiss Toxicological Information Center

by F. Borbély

- I. Number of inquiries
- II. Origin of phone calls
- III. Patients
- IV. Toxic agents
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## I. Number of inquiries

Compared to the previous year with 4385 cases, the number of reported cases increased by more than 1000. The synopsis of the type of responsible agents, and of the mode and course of intoxications, consists of the 5403 reported cases during the year 1968, i.e. cases number 6589-11 991.

Additional phone calls in which the information asked for fell outside our competence, have been compiled in a journal; their number was 371.

The number of informations given upon written request totalled more than 200 only in 1968; 41 of these inquiries came from abroad. This put a considerable strain on the working capacity of the Center, and therefore we were forced in certain cases to request a fee for formal reports issued. The first four formal reports were completed in November and December 1968.

## II. Origin of phone calls

The cases were broken down according to their occupational and geographical origin. The

cumulative statistics considered the first 12 000 cases. An increase of calls of nonmedical origin was noted as well as an increased number of inquiries from hospitals as opposed to inquiries from physicians (Table 1).

Of the calls from Switzerland, 82,29% originated from the German speaking part, 15,97% from the French speaking part, and 1,74% from the Canton Ticino.

The calls from abroad totalling 2,17% (261 cases) were distributed as follows:

*Belgium*: Brussels 1. *Germany*: Augustfehn 1, Backnang 1, Baden-Baden 1, Berlin 27, Biberach-Haslach 1, Bonn 5, Bremen 1, Buchen 1, Darmstadt 1, Dortmund 1, Düsseldorf 3, Erlangen 1, Frankfurt am Main 20, Freiburg im Breisgau 3, Göllheim in der Pfalz 1, Hamburg 26, Hof-Salen 1, Homburg (Saar) 1, Jestetten 1, Kempten 1, Kiel 1, Köln 7, Konstanz 25, Landau in der Pfalz 1, Leistadt 2, Ludwigshafen am Rhein 1, Lörrach 1, Mainz 9, Marburg 1, Meppen (Ems) 1, München 2, Nürnberg 1, Oldenburg 5, Ostfriesland 2, Ravensburg 7, Ringstedt Weesermünde 1, Schwenningen 1, Schopfheim 3, Stuttgart 2, Tiengen (Oberrhein) 1, Trier 2, Tübingen 1, Tuttlingen 1, Ueberlingen 6, Wiesbaden 1. *Ivory Coast*: Radio call via Geneva-Cointrin-Cantonal Hospital 1. *France*: Clermont-Ferrand 1, Lyon 2, Marseilles 3, Paris 8. *Israel*: Haiffa 1. *Italy*: Bolzano 1, Milano 1. *Liechtenstein*: Balzers 1, Eschen 5, Schaan 13, Vaduz 6. *Austria*: Bregenz 1, Dornbirn 6, Eisenstadt 1, Feldkirch 1, Innsbruck 8, Leoben 1, Linz 1, Reutte (Tirol) 2, Salzburg 8, St. Pölten 1, Vienna 2. *Rumania*: Bukarest 1. *Sweden*: Stockholm 1.

**Professional and geographical origin of the first 12000 cases  
(period from 25 May 1966 till 31st December 1968)**

Origin	Foreign countries	AG	AI	AR	BE	BL	BS	FR	GE	GL	GR	LU	NE	NW	OW	SG	SH	SO	SZ	TG	TI	UR	VD	VS	ZG	ZH	Total	In per-cent.	
Non-medical:	33	174	1	8	212	73	106	22	88	4	62	87	47	9	4	107	29	56	23	48	37	7	103	20	28	1296	2894	24.12	
Pharmacists	4	45		3	81	13	21	22	38		24	8	34	7	3	32	10	6	4	9	21	2	42	39	6	165	639	5.32	
Physicians (total)	45	284		18	473	93	57	47	57	24	123	169	48	16	11	180	65	106	62	121	63	13	135	111	93	1297	3711	30.92	
Gen. pract. Specialists (FMH):	34	174		15	278	64	15	19	22	16	90	115	24	15	9	118	44	61	47	78	33	11	67	58	42	612	2061	17.16	
Pediatry	8	78			109	13	19	19	17	7	12	34	9			52	12	25	12	36	15		35	33	28	444	1017	8.48	
Internal med.	2	19			50	8	13	3	9		3	11	5		2	3	8	12	2	5	9		19	6	6	144	339	2.82	
Surgery	9	9		2	21	3	4	1	2		15	4	3			2	4	1	1		3	2	8	12	14	34	141	1.18	
Gynecol.	1	2			8	1	1	4	4	1		2	5	1		2	1	1		1	2		2		3	20	58	0.48	
ORL				11	1	3	1				1	1				3	1						1			11	26	0.22	
Psychiatry:		1			2				2																	10	15	0.12	
Tropical diseases.					1		1						1								1		1	1		2	6	0.05	
Dermatology					1		1														1		2			4	12	0.10	
Physical therapy					1		1				2															3	4	0.03	
Anesthesiology					1		3	1	1		2	2	1					6					1	1		1	2	0.02	
Radiology		1			1		3	1	1		2	2	1													12	28	0.23	
Ophthalmology					4	1	3												1		1		4			10	26	0.22	
Dentists		2																											
Veterinarians	1	16	1	3	18	6		3	7		4	13	2	1	1	15	3	3	4	8	1		10		1	51	172	1.43	
Hospitals (Total)	175	189		32	686	22	328	35	276	37	157	155	141	17	1	324	18	78	29	80	75	10	405	89	36	981	4376	36.47	
Cantonal Hospitals		34			109	21	90	22	117	36	67	95	12	17		159	13	32	2	73		9	90			296	1294	10.78	
Childrens Hospit.	107	75			267		231	6	156	1	11	29	1			95	4	1	1	1		1	129		2	381	1497	12.48	
District Hospitals		43		27	232	1	7	2	3	1	37	31	9		1	6	1	3	21	6	21		144	46	34	164	789	6.58	
Other Hospitals	68	37		5	78			5	3		42		119			64		42	6	6	54		42	43	34	140	796	6.63	
Animal Hospitals					9																					30	39	0.33	
Military and Civil authorities	3	4			17	2	8	2	6	1	1	1	1					1			3		7			77	143	1.19	
Total	261	714	2	64	1500	210	523	131	472	66	371	433	273	50	20	667	125	250	123	266	201	32	706	259	164	3907	12000	100 %	
Expectations in %		6.74	0.22	0.83	16.20	3.10	3.91	2.81	5.12	0.69	2.52	4.60	2.70	0.41	0.41	6.10	1.18	3.69	1.40	3.07	3.82	0.54	8.15	3.13	1.06	17.60	100 %		
Total in %	2.17	5.95	0.16	0.53	12.33	1.76	4.36	1.09	3.93	0.55	3.09	3.61	2.28	0.42	0.18	5.57	1.04	2.08	1.02	2.22	1.67	0.27	5.88	2.16	1.37	32.56	100 %		

The cantons requesting information more often than was expected from the number of inhabitants are marked by a heavy frame.

### III. Patients by age and sex

Age in years	Number of patients	Percent patients
0 - 1	532	4,43
1 - 5	6 566	54,72
5 - 10	438	3,65
10 - 15	177	1,48
Adults	4 287 (female 2200) (male 2087)	35,72 (female 18,33) (male 17,39)
<b>Total</b>	<b>12 000</b>	<b>100,00</b>

The statistics of patients by age and sex was compiled cumulatively, and considers the first 12 000 patients. Animals having suffered intoxications within the same period were not considered.

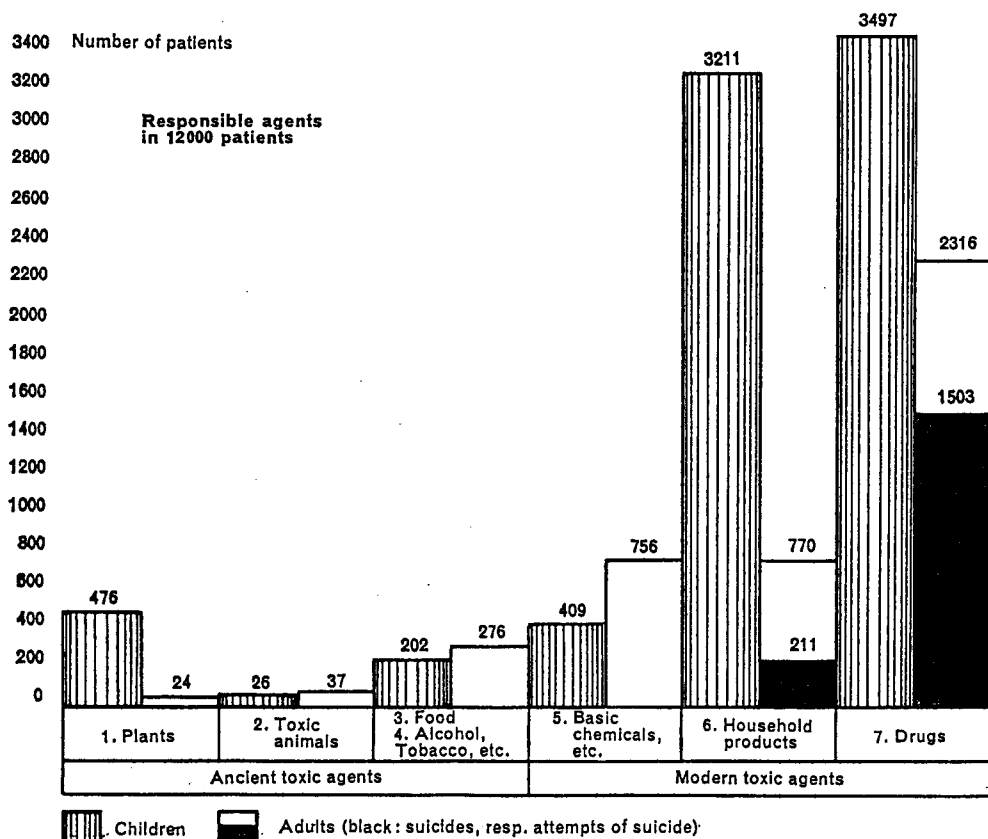
Information was requested by veterinarians in 230 cases. In the cases where "several" animals were reported simultaneously, we registered for our statistics three animals. The following animals suffered intoxication: 500 chicken, 162 bovines (cows, oxen, calves, beef, buffalos), 109 dogs, 57 pigs, 17 cats, 12 sheep, 10 horses,

2 hedgehogs, 2 hamsters, 2 parrots, 1 little monkey, 1 ape (orang-outang), 1 rabbit, 1 goat, 1 guinea pig, 1 snake, 1 cokatoo, 1 tucan bird, 1 budgerigar, 1 puma, and an unknown number of aquarium fish.

### IV. Toxic agents

The following grouping of toxic agents has proved useful:

1. Poisonous plants
2. Actively toxic animals
3. Toxic food



4. Alcoholic beverages, tobacco products, addictive agents
5. Basic chemical substances, occupational agents
6. Household products, 6a various household hazards
7. Drugs.

Fig. 1 shows the distribution in the first 12 000 patients. The following items were not consid-

ered: the various household hazards, the unidentifiable agents, intoxications of animals, and those cases which upon further investigation did not prove to be intoxications. The cases of 1968 were further broken down within the groups mentioned above. Since not the number of reports, but the number of patients (children, adults) was analyzed, the total number amounts to more than the 5403 reported cases, although a small number of cases could not be classified.

### 1. Plants (1968)

Name of the plant (+ fatal cases described in literature)	Children	Adults	Total
<i>Aesculus hippocastanum</i>	2		2
<i>Anthurium</i>	1		1
<i>Arum maculatum</i> (+)	3		3
<i>Atropa belladonna</i> (+)	4		4
<i>Berberis vulgaris</i> (only <i>fruit</i> eaten, harmless)	5		5
<i>Clivia miniata</i>	1		1
<i>Colchicum autumnale</i> (+)		1	1
<i>Convallaria maialis</i> (+)	9		9
<i>Cotoneaster</i> spec. div.	15		15
<i>Crocus sativus</i>		1	1
<i>Cyclamen europaeum</i>	1		1
<i>Daphne cneorum</i>		1	1
<i>Daphne mezereum</i> (+)	13		13
<i>Euphorbia pulcherrima</i>	1		1
<i>Forsythia</i> (harmless)	2		2
<i>Galanthus nivalis</i>	1		1
<i>Ilex aquifolium</i> (+)	6		6
<i>Laburnum anagyroides</i> (+)	5		5
<i>Lonicera</i> spec. div. (+)	12		12
<i>Mahonia aquifolium</i> (only <i>fruit</i> eaten, harmless)	18	1	19
<i>Narcissus pseudonarcissus</i>	3	2	5
<i>Philodendron</i> spec. div.	2		2
<i>Physalis alkekengi</i> (resp. <i>franchetti</i> ; prob. harmless)	13		13
<i>Polygonatum officinale</i> (+)	3		3
<i>Prunus laurocerasus</i> (+)	6		6
<i>Pyracantha angustifolia</i>	2		2
<i>Ranunculus acer</i>	1		1
<i>Solanum</i> spec. div. (+)	6		6
<i>Sorbus aucuparia</i> (+)	10		10
<i>Symphoricarpos</i> spec. div.	8		8
<i>Taxus baccata</i> (+)	16		16
<i>Tulipa gesneriana</i>	1		1
<i>Veratrum album</i> (+)		2	2
<i>Viburnum</i> spec. div. (+)	3		3
<i>Viscum album</i> (+)	9		9
Others (bagatelle cases)	17	2	19
Unidentified berries, plants, fruits	33	1	34
<b>Total</b>	<b>232</b>	<b>11</b>	<b>243</b>



2. Actively toxic animals (1968)	Children	Adults	Total
Bees	2	1	3
Wasps	8	6	14
Other insects	2		2
Fish ( <i>Plotosus anguillaris</i> , <i>Pterois volitans</i> )	1	2	3
Snakes (vipers and related)		4	4
Total	13	13	26

3. Food intoxications (1968)	Number of cases / patients
(a) Food of <i>immanent toxicity</i> (passively toxic animals, mushrooms, other plants)	45/92
(b) Food of <i>accidental toxicity</i> due to chemical contamination	2/2
(c) Food <i>intoxicated by bacteria</i> (e.g. exotoxin of <i>clostridium botulinum</i> , endotoxin of <i>staphylococcus aureus</i> ). We considered in this group also cases, where gastro-enteritic symptoms appeared simultaneously in several persons, and where benignity did not warrant a further chemical or bacteriological investigation.	53/89
(d) <i>Infectious diseases</i> imitating food intoxication (e.g. <i>Salmonella</i> )	1/1
Total	<u>101/184</u>

Under the heading (c) three cases of botulism are noticeable.

4. Alcoholic beverages, tobacco products, addictive agents (1968)	Children	Adults	Total
Alcohol *	9	34	43
Other beverages (e.g. quinine containing tonic water)		1	1
Seasonings	3		3
Hallucinogenic agents		7	7
Tobacco (especially cigarettes p.o.)	31	2	33
Irritants (Cantharidin)		1	1
Total	43	45	88

\* The numbers of alcoholic intoxication are not significant, because this intoxication and its therapy is well-known by general practitioners and therefore frequently remained unreported.

5. Basic chemical substances, occupational products (1968)	Children	Adults	Total
Fuels (gasoline, furnace oil, petroleum)	59	31	90
Industrial colors (p.o.)	4	8	12
Hardeners	10	15	25
Preserving agents p.o.	5	3	8
Thinners, artificial resin, paints p.o.	14	22	36
Laboratory reagents p.o. (mostly during pipetting)	1	33	34
Lyes in technical use p.o.	7	7	14
Technical solvents p.o.	15	32	47
Military products		3	3
Acids in technical use p.o.	21	50	71
Lubricating oils for various machines p.o.	24	4	28
Softeners p.o.	10	1	11
Other occupational and industrial products (single cases or small groups)	18	26	44
Smoke, gas, vapours in place of employment p.i.		115	115
Total	188	350	538

In certain cases a percutaneous resorption occurred in addition to ingestion and inhalation of the toxic agents. No separate grouping was made for these cases.

## 6. Household products (1968)

	Children	Adults	Total
<i>Pesticides</i>	249	82	331
Various insecticides (e.g. formicides)	35	5	40
Fungicides	17	7	24
Herbicides	10	13	23
Insecticides various	65	35	100
Mothballs (in addition)	38		38
Rodenticides	35	19	54
Snail pesticides	49	3	52
<i>Household products</i>	1158	231	1389
Automotive products (polish, antifreeze, etc.)	13	8	21
Bleaches	23	29	52
Floor polish	9	3	12
Disinfectants (for household use)	16	6	22
Fertilizers (esp. for ornamental plants)	78	15	93
Decalcifying agents (for boiler cleaning)	8	6	14
Paints various (for household use)	33	2	35
Paints (oil, gouache, in addition to above)	9		9
Stamping inks (in addition to above)	3		3
Ink, drawing, various (in addition to above)	37	1	38
Copying ink pencil	15		15
Solid alcohol	48	7	55
Wood preservatives	3	15	18
Impregnating products (for textiles)	2	3	5
Adhesives	22	9	31
Cosmetics, various	66	4	70
Nail polish removers (in addition to above)	11		11
Nail hardeners (in addition)	7	1	8
Varnishes (not nail polish)	6	8	14
Leather dressings (also shoe polish)	26	2	28
Deodorizers	17	2	19
Furniture polish and other products for furniture	35	3	38
Photographic products	10	6	16
<b>Cleaners</b>			
Floor (except turpentine)	27	3	30
Flat iron	9		9
Windows	5	2	7
Stain removers for clothes	37	18	55
Dishes	48	13	61
Stove and oven	15	5	20
Solvents in household (except turpentine)	7	2	9
Machines	2		2
Multipurpose	60	5	65
Rust remover	6	1	7
Silver	5		5
Carpet, upholstery	17	2	19
Turpentine and substitutes	42	7	49
Laundry	49	3	52
Toilet bowl and pipes	28	13	41
Toys and sport products	30	1	31
Toilet articles	76	5	81
Various (single cases)	13	1	14
Bagatelle cases (matches, thermometer content, driers)	185	20	205
<b>Total</b>	<b>1407</b>	<b>313</b>	<b>1720</b>

## 6a Various household hazards (1968)

	Children	Adults	Total
Gases from stoves, gas for cooking, lighting gas, liquid gases, smoke from fires, gases from liquid manure.	6	18	24



## V. Modes of intoxication

(in 5403 reports, from January 1st till December 31st, 1968)

Criminal intoxications	3 (+3 suspected cases)
Intoxications due to addiction	26 (+7 questionable cases)
Suicidal or demonstrative intoxications	846 (583 women, 263 men)
Iatrogenic intoxications	20 (+4 questionable cases)
Undesired side effects of drugs taken with therapeutic intentions	67
Food intoxications	65 reports (+31 suspected cases)
Intoxications in the place of employment	289
Intoxications caused by accident	3761 (of which 3269 children, i.e. 86,91%)
Not classifiable cases	281

## VI. Course

(of 5403 reports, from January 1st till December 31st, 1968)

Fatal intoxications	41
Heavy intoxications	893
Light intoxications	1242
After timely decontamination without symptoms of intoxication	635
No or not interpretable answer (in part it became evident upon further investigation that there was a non-toxic origin of an illness or a false alarm)	809
Bagatelle cases which did not necessitate a further inquiry (in great part calls of non-medical origin, in part non urgent inquiries)	1783
Reports sent : 3796. Answers received : 3101, i.e. 81,69%	

In the fatal cases the following agents and modes of intoxication were found (1968) :

Mushroom ( <i>Amanita phalloides</i> )	Adult	Food intoxication
Botulism	Adult	Food intoxication
Cyanide (unknown composition)	Adult	Suicide
Potassium cyanide	Adult	Suicide
Methylene chloride (+ ev. Toluol)	Adult	Occupational accident with previous heart and lung changes
Rust stain remover (Ammonium fluoride + acid)	Adult	Suicide
Liquid ammonia	Adult	Suicide
Hydrochloric acid	Adult	Suicide
Hydrochloric acid	Adult	Suicide
Hydrochloric acid	Adult	Suicide
Hydrochloric acid	Adult	Suicide
Ensilage gases	Adult	Accident (found dead)
Sublimate (+ ev. hypnotic)	Adult	Suicide
Arsenic (muricide)	Adult	Suicide
Mothballs (naphthalin)	Child of 2 years	Accident
Pesticide (phosphoric acid ester)	Adult	Suicide (hospitalized dead)
Analgesics, neuroplegics, alcohol intake of the mother	Newborn	Stillbirth after excessive drug and alcohol intake during gravidity

(Continued on following page)

Fatal cases (continued)

Analgesic	Adult	Suicide (found dead)
Anorexogenic, cardiac drug, analgesic diuretic	Child of 16 years	Suicide
Chemotherapeutic (chloroquine)	Adult	Suicide
Disinfectant (Invert-soap)	Adult	Accident
Hypnotic (barbiturate + hydroxyzine)	Adult	Suicide
Hypnotic (chloral hydrate)	Adult	Suicide
Hypnotics (various) + Tranquilizer	2 Adults (twins)	Suicide
Hypnotics (containing bromide, barbiturate, methyprylon)	Adult	Suicide
Hypnotic (Gluthetimide) + alcohol	Adult	Suicide
Psychotherapeutic drug + ev. hypnotic	Adult	Suicide
Psychotherapeutic (Thioridazine)	Adult	Accident
Thymoleptic (Opipramol)	Child of 3 years	Accident
Thymoleptic (Amitriptyline)	Child of 1 year	Accident
Thymoleptic (Imipramine)	Child of 2½ years	Accident
Organic solvent ?	Adult	Airplane accident after working with solvents
Pesticide ?	Adult	Suicide (autopsy refused)
Suspected food intoxication	Child of 12 years	Food poisoning ?
Chloramphenicol + pesticide ?	Adult	Questionable intoxication
Cardiac drug (Nialamid)	Adult	Previous heavy heart insufficiency
Cardiac drug (Nitroglycerine)	Adult	Questionable intoxication
Disinfectant (Invert-soap)	Adult	Accident, questionable intoxication
Diuretic ?	Adult	Questionable intoxication
Psychotherapeutic drug, hypnotic antipyretic ?	Adult	Questionable suicide
<b>Total</b>	<b>41 deaths</b>	

## VII. Conclusions

The card-index has again increased by approximately 3000 file-cards. The sources for these new cards are the following :

- the industry, describing their products spontaneously or upon request,
- IKS- and Galenica card index, speciality card-index,
- new cards on poisonous plants by Mrs. Rita Jaspersen-Schib, pharmacist, Dr. sc. nat.,
- own investigations of intoxications with hitherto unknown agents,
- section of poisons of Federal Health Department (declaration only planned),
- various foreign sources.

The increase of the *card-index* was smaller than in the previous year, because its quality was

improved by discarding old or incomplete file-cards.

The *number of inquiries* has strongly increased. This was not only caused by the increase of phone-calls from 4385 in the previous year to 5403 in 1968, but also by the considerable increase of the number of written inquiries.

The *organization* and improvement of the information services and materials was again the responsibility of Mr. J. P. Lorent, administrative vice-director, who implemented his duties in an outstanding manner.

We collaborated with the *Institute of Forensic Medicine of the University of Zurich*, under the new direction of Prof. Dr. med H.-P. Hartmann, in frequent and fruitful seminars. His assistant, Dr. med A. Pasi continued to be delegated to the Center.

The fruitful collaboration continued with the Swiss *hospitals* and with the Children's hospital

of Zurich. At the end of the year a new inquiry was made concerning the readiness of Swiss hospitals for the treatment of toxicologic cases. On the basis of the hitherto processed data we were pleased to note an improvement of the facilities for the treatment of acute intoxications. Therefore, it becomes increasingly possible to treat successfully even heavy intoxications and thus to prevent death or an incomplete recovery.

The collaboration with the *producers* of the responsible toxic agents was greatly improved, as all important firms obtained reports concerning intoxications due to their own products during the previous year.

The collaboration with the *authorities* was especially fruitful in the case of mass poisonings. We collaborated frequently with the *Founding Council* of the Swiss Toxicological Information Center. Our endeavours were in particular supported by the president, Dr. A. Nisoli, the vice president, Dr. J. Egli, and the administrative director Dr. H. P. Jaspersen.

Our *staff* continued to show an outstanding performance. It must be emphasized that the frequent and multiform inquiries demand an extraordinary readiness of our collaborators. The appointment of Dr. med. J. Velvart, specialist of internal medicine and occupational diseases, brought us a valuable help for the information services as well as for problems of industrial toxicology.

Members of the *medical profession* have been informed of our activities by several publications in medical journals. Our experience has been summarized in the Swiss Medicinal Calendar, where we described the principles of the treatment of acute intoxications. We hope that we increased thereby the readiness of general practitioners for treating intoxications, and we intend to update this summary in future editions.

Our participation in 5 congresses in Germany, France, and Spain, enhanced the contact with specialists abroad. The fact that phone-calls from abroad have doubled seems to indicate that these contacts have also been useful for our colleagues abroad.

The increasingly frequent visits of Swiss and foreign groups, and various visits by foreign physicians for study purposes are evidence for the interest of the medical world for the activities of the Center.

The *public* was informed about the hazards of toxic products by radio and television broadcasts, and by articles in daily newspapers. These endeavours were supported by various public lectures.

*New activities* were started in various fields :

- Formal reports were delivered since autumn 1968.
- Thesis projects were continued. The first of 9 projects was successfully completed, and good progress was made in 5 others. It would be possible to start further projects on the basis of the records compiled in the Center, however the limitation of room and manpower do not permit us presently to increase these activities.
- Military aspects of toxicology have been especially investigated by Dr. med A. Pasi and Mr. J. P. Lorent who performed their military repetition courses of 1968 in the Center.
- Veterinary aspects of toxicology have also been investigated in close collaboration with the Department of Pharmacology and Biochemistry of the Veterinary Medical Faculty of the University of Zurich, as well as in a thesis project by a student of veterinary medicine.

In review it can be said that the practical and scientific work during the year 1968 has been successful. It should be noted, however, that the increasingly frequent inquiries require a further extension of rooms, and a further increase of the staff. In the near future the information services will remain the main part of our activities, while the processing of our data in the light of human toxicology will be the most important long rang project.

Zurich, February 1969

Prof. Dr. med. F. Borbély  
Medical Director