



SECRET				
R70-14	CENTRAL INTELLIGENCE AGENCY Directorate of Intelligence January 1976			
	RESEARCH PAPER			
	Reservist Training for Soviet Ground Forces: Patterns and Implications			
	Summary			
	most reservists in the USSR do not receive periodic refresher training to the extent prescribed by the 1967 Military Service Law. In a general mobiliza-			
	tion, however, many reservists would fill positions that either would not require a high degree of mili- tary expertise or would involve skills similar to those practiced in their civilian occupations. Those whose assignments would involve the operation or maintenance of complex equipmenta relatively small groupare called up frequently for training.			
	The Soviets do not maintain organized reserve units like those of the USto which reservists regularly re- port for training and which would be mobilized with es- sentially the same officers, men, and equipment as are assigned in peacetime. Rather, Soviet mobilization depends on a rapid and massive infusion of reservists into understrength standing forces.			
	There are about 168 ground force divisions in the Soviet army, of which some 60 are estimated to be maintained at nearly full strength. All other Soviet divisions are at lesser strength levels and would require greater augmentation by reservists before being committed.			
	Comments and queries regarding this paper are welcome. Then may be directed to Office of Strategic Research,			

There are 50 divisions where active-duty personnel already fill 50 to 75 percent of authorized positions. Reserve training deficiencies would not significantly limit the combat effectiveness of these units.

SECRET

In the remaining divisions, however, active-duty personnel make up only an estimated 10 to 35 percent of authorized strength. Reservists must assume a large share of combat responsibility in these divisions, and training deficiencies could sharply limit the initial combat effectiveness of these units.

Several factors would temper the effects of inadequate reserve training in the event of general mobilization. There is no shortage of reserve manpower. Approximately 1.2 million to 1.5 million conscripts--the majority of whom were in the ground _ forces--are discharged into the reserves each year. The Soviets could double the peacetime strength of their ground forces yet fill all vacant positions in maneuver and support units with reservists who had completed conscript service within the previous three to four years.

The most demanding positions, moreover, would be filled by the best trained reservists. Officer and enlisted reservists with special combat or technical skills are returned to active duty more frequently than those whose likely functions would require little expertise or experience. Enlisted reservists with specialized experience usually receive refresher training and familiarization with new equipment and techniques. The less skilled or experienced enlisted reservists spend their limited training time in unskilled work, construction, or harvesting. Training for the majority of reserve officers most frequently consists of lectures presented by the local military commissariats.



Preface

During peacetime the Soviets maintain the structure and major elements of virtually their entire wartime ground force, but most units are manned at less than full strength. In this way, the Soviets provide a ready framework for a rapid and massive expansion during wartime, while avoiding the economic strain of maintaining fully manned standing forces in peacetime. Because of the dependence on a broad infusion of reservists into the wartime forces, reserve training in the USSR is of particular concern in assessing the combat effectiveness of mobilized Soviet ground forces.

US intelligence estimates have generally concluded that reserve training in the USSR falls far short of the minimum prescribed by the 1967 Law on Universal Military Service. The evidence to support this conclusion was, until recently, guite limited. In the last three years however,

Inew information. Drawing primarily on these sources, this paper describes Soviet reserve training practice in the context of peacetime and postmobilization force structure and manpower requirements.

Significant gaps still remain in our knowledge of the Soviet reserve system. Not enough is known about the political and military decisionmaking process as it applies to reserve mobilization and training. Not enough detailed information is available to specify precisely the numbers of reservists who have completed various types of training. But the continuing arrival of more exact intelligence promises to improve both the accuracy of these tentative conclusions and existing estimates of the total number of trained reservists.



Contents

	Page
Legal Requirements	5
Training Obligations for Enlisted Reserves	5
Training Obligations for Officer Reserves	6
Reserve Training in Practice	8
Previous Interpretations and New Sources	
of Information	8
Administration and Call-up Procedures	9
Enlisted Reserve Training	10
Technical Specialties	10
Special Combat Skills	10
Transportation Skills	11
General Military Positions	13
Exceptions	14
Reserve Officer Training	14
Short-Term Call-ups	15
Call-ups of Ong to Three Months	17
Extended-Duty Call-ups	17
Training Units and Equipment	18
Attitudes Toward Reserve Call-ups	19
Extent of Soviet Reliance on Trained Reserves	21
Reduced-Strength Divisions	21
Cadre Divisions	22
Postmobilization Training	22
Capabilities and Constraints	24

Legal Requirements

The present legal basis for any military service by citizens of the USSR, including the reserve program, is the Law on Universal Military Service adopted in October 1967. This law superseded a much-amended 1939 statute. Principal among the changes were a lowering of the draft age from 19 to 18, a reduction in the terms of active service, the institution of compulsory premilitary training, and the establishment of semiannual draft call-ups and demobilizations.

The law requires those conscripted for the enlisted ranks of the ground forces to serve two years. Inductees with a higher education (college level) need serve only one year. A new conscript age group is called up each year in semiannual increments, during May-June and November-December.

Men who have completed their terms of active service are transferred to the reserves, where they are subject to mobilization and refresher training. Apart from training, both enlisted men and officers may be called up for inspection periods of up to ten days, in order to test call-up procedures and to verify personnel records. The main provisions of the military service law concerning reserve training are described in the next two sections.

Training Obligations for Enlisted Reserves

The military service law divides enlisted reserves into two categories:

Category I. Men subject to military service who have served at least one year on active duty, and those who have fought in combat for the USSR, regardless of the duration of service. (Category I thus includes all who have completed the required tour of active duty as conscripts.)

SECRET

Category II.

 Men subject to military service who have performed less than one year of active duty, plus those subject to



the individual on training while in the reserves is not to exceed 30 months.

SECRET

In addition to training call-ups, officers in the first age class may be required to attend, once every three years, command training courses of 30 to 60 hours, organized by the chiefs of garrisons and military commissariats. The courses are given in the officers' areas of residence. For those living in towns, the course is to be taken without interruption of regular work or with only a temporary interruption of up to two days for the entire duration of the course. For those living in rural areas, the courses may interrupt regular work.

Reserve officers may also voluntarily enter active military service in peacetime with the permission of the Minister of Defense; and the Council of Ministers may call up for two to three years of active duty reserve officers not over 30 who have special military qualifications.

The Minister of Defense defines the terms of training for the various groups, conforming to the time limits established by the law. The Minister may increase the number of call-ups for both enlisted and officer reservists, provided the total training time limit stated in the law is not exceeded. He also has the right, in case of necessity, to keep persons subject to military service in training up to two months beyond the time limits established by law.

Reserve Training in Practice

Previous Interpretations and New Sources of Information

There is ample evidence that the Soviet government does not fully or uniformly enforce the reserve training provisions of the 1967 law. Western analysts have been uncertain, however, about the extent to which actual Soviet practice deviates from the letter of the law or why the deviation occurs.

Previous intelligence estimates have held that Soviet reservists receive only a minimal amount of refresher training, which would limit the combat effectiveness of reserve-filled units in the event of mobilization. It was believed that the typical enlisted reservist served no more than one 30-day training period during his time in the reserves but that reserve officers probably were called up more frequently. There was no available_evidence to suggest that the ______ Soviets intended to delay the use of mobilized divisions in order to provide training for reservists.

For the present, however, a firm estimate of the number of those eligible but who have not undergone reserve training is not possible.

HR70-

and the second s	
SECRET	

Although reserve training throughout the Soviet Union generally follows the same pattern, for reservists living in districts associated with the most likely areas of conflict training apparently is more frequent and rigorous than for reservists living in more remote regions.

In general, the available information is not sufficient for a precise determination of training trends among the different categories and classes of reservists identified in the Soviet law. Younger reservists train more frequently, but those with less than a full year's prior service apparently do not receive the additional training prescribed to place them on a par with the veterans. Factors not mentioned in the law, such as military specialty, political reliability, and place of residence--rather than age or prior service--often determine which reservists receive training.

Administration and Call-up Procedures

Military commissariats, existing at administrative levels from rayon through republic, are responsible for local and regional management of the mobilization, conscription, and reserve systems. The commissariat is responsible for maintaining and updating reservist records and for ensuring that each reservist is aware of his mobilization assembly point.

When directed, reservists are expected to report immediately to the assembly area for movement to the unit of assignment. Although the commissariats probably predesignate the appropriate numbers of reservists for military units, based on their requirements, most reservists do not know their unit of assignment.

Periodic exercises are held to test notification and alert procedures. These exercises are intended to check the speed and reliability of the alerting system, but seldom include the integration of men into wartime organizations. Usually the reservists are released after a few hours.

The customary alert procedure is also used to notify some reservists to report for their required periods of training. Other reservists receive advance written instructions informing them of their call-up for training.

Enlisted Reserve Training

Technical Specialties. In the enlisted ranks, the best trained reservists include those whose prior military service involved technical skills in communications or electronics, or whose assignment on mobilization would use such skills. Among the military specialists identified as having undergone extensive reserve training are missile maintenance personnel, radar operators, and radio repairmen. The majority of reports on technical training indicate that such specialists average three months of training per call-up. Some specialists re-

tained on active duty for as long as six months at intervals ranging from one to three years, which would exceed the maximum legal limits.

ing for enlisted personnel in certain occupational specialties reaches the legal maximum.

the scale of reservist training at a "special-purpose" regiment concerned with electronics, in the Turkestan Military District. 100 to 150 reservists (20 to 30 of them officers) underwent three months of training with this unit in November 1971.

Special Combat Skills. Reservists with special combat skills include those in armor, antitank,

artillery, antiaircraft, and engineer military oc--cupational specialties.

enlisted reservists with these specialties train for three weeks to three months every two to five years.

Of the reports that specified the types of training received, approximately 75 percent identified such types as familiarization firing, driving of armored vehicles, and field exercises. According to one report, about 1,000 reservists were called up in the fall of 1971 for three weeks of active duty in the Tallin area. After a three-day processing period, the reservists moved to an exercise area with regular troops, where they trained in field fortification construction, antitank tactics, and minelaying.

The remaining 25 percent of the reported call-ups of reservists with special combat skills were entirely devoted to auxiliary duties such as equipment maintenance and military construction.

Transportation Skills. The third major occupational group of reservists consists of driver-mechanics, some of whom are called up individually and others on mobilization of their *avtokolonna*--a type of transport unit operated in the civilian economy but maintained according to military specifications and subject to call-up of both its personnel and vehicles. Driver-mechanics do not require reserve training to maintain or improve their occupational skills, but are called up for such purposes as transporting harvested crops, servicing and inspecting vehicles earmarked for mobilization, and providing transportation support for reserve or active force training exercises. In most cases, call-ups involve both vehicles and drivers from the *avtokolonna*.

Some drivers are called up to fill driving and motor maintenance positions in engineer, artillery, and other nontransport units that do not need additional vehicles from the civilian economy. Normally these are reservists not employed by civilian transportation enterprises.

Scale of Enlisted Reserve Training (Composite of Reported Cases)

SECRET

	Training Call-ups			
	Frequency	Duration	Training Activity	
Technical specialists (radar operators, radio repairmen, mis- sile maintenance per- sonnel)	l to 3 years	3 months	Refresher training; fa- miliarization with new equipment and techniques	
Combat specialists (tank driver- mechanics, combat engineers, etc.)	2 to 5 years	3 weeks to 3 months	Armored vehicle driving; familiarization firing; field exercises; bridge— laying	
Transport driver- mechanics (majority called up with civilian transport unit vehicles)	l to 5 years*	2 to 3 months	Transport of harvested crops; inspection and servicing of vehicles; transport support for field exercises	
<pre>Less skilled person- nel (riflemen, penal guards, laborers, etc.)</pre>	Most never called; others only once or twice in 6 to 12 years	2 weeks to 3 months	Construction; harvest- ing; unskilled work; training for a different military specialty	

* Less frequent for driver-mechanics called up individually.



Exceptions. Some skilled and experienced reservists are not called up for training. Medical unfitness or family hardship exempts some individuals from active duty, and the military apparently prefers politically reliable reservists. Some sources suggested that Communist Party members and ethnic Russians were called up more frequently than Jews or Germans. Former convicts, sons of politically unreliable parents, and persons with pending applications for repatriation were either exempted from training or called up only infrequently.

Location may also be a factor in call-up for reserve training. Both the designated mobilization and training units are generally in the reservist's home area. In some remote areas the absence of garrisons capable of conducting training probably exempts some reservists from call-up, but it is not possible to estimate how many are thus excluded.

Soviet reservists who are unemployed may also be exempted from call-ups for training. Normally, whileon active duty for training, reservists continue to be paid by their civilian employers. Unemployed reservists, however, would be dependent on the military for compensation. The military reportedly is either unwilling or unauthorized to support reservists during training, and unemployed reservists generally are not called up.

One source reported that a local military commissariat offered reservists an opportunity to substitute occasional night duty at the commissariat for three months of summer training.

Reserve Officer Training

Some features of reserve training for Soviet enlisted personnel also apply to officer training. In general, reserve officers also are called up less frequently and for shorter terms than the law prescribes. There is evidence, as well, that the most frequently recalled and most intensively trained officers are those with the most critical skills. Armor and technical officers generally receive more specialized functional training than officers in branches that make less use of equipment.



SEÈRET The content of the command training courses was mostly theoretical, with little attention to practical experience. The training held at the Kiev Higher Engineering Tank Technical School in 1970, for example, covered tank construction, mechanics, and gunnery by means of tables and charts. Each refresher course ended with practice firing on the pistol range. In Naberezhnyye Chelny in February 1974, 350 officers received three days of lectures on the structure of the Soviet army, on chemical warfare, on military preparedness, and on foreign affairs. There were small special classes in various technical specialties and refresher instruction in various weapons. Civilian clothes were worn the entire period. In another instance, military commissariat and party officials instructed 100_officers in Namangan in March 1971. Four classroom days were devoted to lectures on politics, foreign policy, and US force structure. The fifth and final day consisted of practical work, including pistol firing and protective mask exercises. These reservists did not have specialized technical instruction such as that offered in Naberezhnyye Chelny, as Namangan reservists were earmarked for mobilization as political officers. Instructors generally were poorly prepared and many simply read aloud from the texts. Some students read newspapers during the instruction period; others did not attend but had their friends answer the roll call for them. Attendance was mandatory, however, and absentees who were discovered could be disciplined by call-ups for more extended training periods with regular military units. Evening lectures were particularly difficult for both students and instructors, as all were tired and inattentive after a day's work. Call-ups of One to Three Months. In this form of training the reserve officer is called up for 16 SECRET

active duty at a military camp. This appears to be the least frequent method of reservist training, although the 1967 law specifies annual training callups for young and middle-aged reserve officers. As noted above, some activities apparently under local command training programs may in fact be credited to active-duty training. As to the duration of such training, available evidence suggests that most tours do not approach the three-month legal requirement for younger and middle-aged officers. No information is available on the frequency and duration of reserve training for older officers.

Extended-Duty Call-ups. Extended active duty-for two to three years--is required of selected graduates of reserve officer training courses at higher educational institutions. Although the callups are not specifically for training purposes, this period of active duty enhances the military skills of the specialist officers and, with the refresher training described above, compensates to some extent for the relatively ineffective instruction given in reserve officer training programs in the universities and institutes.

The extended-duty provision (Article 61) of the 1967 law gives the Soviets a flexible instrument for ensuring that a sufficient number of junior officers will enter active military service and allows the military to select vitally needed specialists. Generally, it appears that the more technically complex and militarily useful a young reserve officer's skills, the more likely he is to be called for extended active service. These same specialists are also urgently required by the civilian economy. Article 61 provides

that the involuntary call-up of skilled reserve officers must be decided by the Council of Ministers and not by the Ministry of Defense, which suggests an institutional arrangement to ensure that conflicts between the requirements of the economy and the needs of the military will be resolved at the highest levels.

SEÒRET

Training Units and Equipment

The Soviets do not maintain organized reserve units like those of the US--to which reservists regularly report for training and which would be mobilized with the same officers, men, and equipment as are assigned in peacetime

reservists in the soviet union did not know in advance with what unit they would serve. Reservists called up more than once for training or other active duty usually did not return to the same unit. Active duty usually was served in a cadre or reduced-strength unit not far from the reservist's home. In the event of mobilization, a reservist would not necessarily be assigned to a unit in which he had undergone training.

some Soviet units never receive reservists for training, while other units frequently train reservists. One report, unsubstantiated, referred to training centers where reservists received their initial refresher training, their military skills were assessed, and they were assigned for contingency purposes to a post-mobilization unit.

The quality of training varies among the units that regularly receive reservists. Familiarization training for some reservists is similar to that given to active-duty personnel. On occasion, reservists are used to fill out understrength units for field exercises. In other cases, they are assigned to routine tasks, including equipment maintenance, construction, training support, or harvest work. In training, the regular authorized equipment of the unit is used, which corresponds in most cases to the model of equipment that the reservist would use in wartime.

Attitudes Toward Reserve Call-ups

reserve training is widely abhorred throughout the Soviet Union.

The morale of reservists on active duty is correspondingly poor--reportedly worse than the morale of conscripts.

These attitudes are shared by reserve officers as well as enlisted personnel.

A primary cause of dissatisfaction with reserve call-ups may be the apparent arbitrariness of the procedure. Some reservists are called up while others with similar military backgrounds are not. Moreover, as already noted, there is often no useful military purpose served by a reservist's call-up. Civilians are recalled to duty for such mundane tasks as construction and equipment maintenance, for which local military units cannot or will not allocate active-duty manpower.

Reservist resentment is most pronounced during large-scale call-ups. During the 1968 mobilization,

	a	
ŕ.	•	
•		SECRET
	روی و میرون و میرو	the morale and discipline among some reservists were
. •		reportedly low, even during the training phase before
		the possibility of hostilities became apparent. In some units in the Baltic Military District, insub-
		ordination, drinking, fighting, and AWOL were every-
		day occurrences. In one unit about to enter Czecho- slovakia, mobilized personnel protested the length
•		of their service by going <u>on hunger strikes and re-</u> fusing to follow orders.
		Tusting to forrow orders.
	ł	Intervention mass desertions among reservists.
•		Another source of resentment may be the method of paying reservists on active duty. During active ser-
4		vice or training, a reservist should, by law, receive
		75 percent of his former civilian wages. The payment reportedly is made directly to the reservist's family
		by his civilian employer or, in some cases, to the re-
		servist following his return to work. A few reports suggest that some employers pay out 100 percent of
: •		regular wages either entirely to the reservist or partly
	, – • • •	to the military to compensate for his subsistence and clothing during active duty. These funds may also be
		the source of the small monthly sum reportedly paid
	ſ	by the military to the reservist during his service.
	Ĺ	
	ſ	
		Reservists from rural areas especially
	L	do not find active duty to be more austere or arduous
		than civilian life and work. There are objections, however, to weekend restrictions. Although training
		is conducted generally near the reservist's home,
		military authorities do not usually permit reservists to visit their families during any nontraining days.
		Unofficially, some junior officers allow reservists
		in their charge to return home on those weekends when no military duties are scheduled.
•	Γ	a hole in the installation's
		fence was used by some 100 reservists as a means of exit and entrance during weekends.
		enter and enterance during weekends.
		20
		SECRET
·		



Extent of Soviet Reliance on Trained Reserves

The adequacy of the Soviet reserve training system can be measured against the probable mobilization assignments of reservists. The Soviets have about 168 ground force divisions. About 60 of these divisions, including all the forward-deployed divisions in Eastern Europe, are estimated to be maintained at nearly full strength. Other divisions require greater augmentation by reservists to reach wartime strength.

Reserve training deficiencies would not significantly limit the combat effectiveness of the 50 or so reduced-strength divisions where active-duty personnel already fill 50 to 75 percent of authorized positions. There are sufficient active-duty officers and enlisted men in those units to integrate reservists rapidly. All other divisions are cadre units, in which active-duty personnel make up only an estimated 10-to 35 percent of authorized strength. The extent and quality of reservist training would have a significant impact on the combat effectiveness of those divisions.

Reduced-Strength Divisions

Soviet reserve training apparently is adequate for the likely mobilization tasks of reservists earmarked for reduced-strength divisions. Upon the mobilization of a reduced-strength division, the better trained reservists would fill specialist-intensive units, such as signal and medical companies. Lesser trained reservists would fill slots in combat components and provide most of the manpower for transportation and other service elements.

An example of this plan was the mix of personnel during the 1968 mobilization in a tank regiment in the Baltic Military District. The commander, most regimental staff officers, and most officers in combat elements were regulars. Two-thirds of the officers for the support units attached to the regiment were reservists. All tank crew members were regular enlisted men. The signal company, transport

company, service platoon, and medical company were virtually all reservists.

Cadre Divisions

A more severe test of the adequacy of reserve training occurs in mobilized cadre divisions, which reportedly exist in two organizational variants. The cadre division may have one full-strength regiment (a motorized rifle or tank regiment) with the remaining elements at caretaker strength, or it may have one full-strength battalion in each combat regiment, with the rest of the division, including supporting units, maintained at caretaker strength.

In both cases, reservists would have to fill a high number of combat positions, sharply limiting the initial combat effectiveness of these units. The Soviets apparently believe that in combat situations, the numerical superiority resulting from rapid mobilization and deployment of cadre divisions... would offset their qualitative deficiencies.

Postmobilization Training

The Soviet mobilization timetable is not believed to allow time for training to increase the combat proficiency of mobilized reservists. Under certain circumstances, however, some postmobilization training might be possible. During the 1968 Czechoslovak crisis, some reservist-filled units benefited from the military exercises held in July and early August before the invasion. In late July a mobilized artillery regiment in the Odessa Military District participated in a 12-day division-size exercise during which the reservists carried out practice firings in coordination with other ground force and air units. Another mobilized cadre division in the same district conducted a week-long exercise in mid-August involving live firing and the coordinated employment of tanks, artillery, and aircraft.

Later, some cadre divisions that were held in reserve and did not participate in the invasion conducted training to improve their combat effectiveness.

> 22 SECRET

SECALET



better soldiers after a month or two of active-duty routine and military discipline. In one unit, however, regular officers expressed doubts about the preparation of reservists and specifically requested that additional exercises be held to bring the reservists into combat condition. There is no indication whether this request was carried out.

SECRET

Capabilities and Constraints

Despite its shortcomings, Soviet reserve training probably ensures a sufficient number of skilled reservists to fill out reduced-strength divisions where active-duty personnel already fill most positions. In cadre divisions, however, where reservists would assume a large share of combat responsibility, training deficiencies could reduce the unit effectiveness in the performance of assigned missions. Moreover, as technological advances increase the complexity of weapon systems, the Soviet military may have to chose among increased reserve training, the reduction of the size of the potential mobilized force in favor of qualitative improvements, the lengthening of the mobilization timetable to allow for reserve training, or the acceptance of still less combat effectiveness for its cadre divisions.

The circumstances of the Czechoslovak crisis were favorable to the training of mobilized reservists. The partial, early mobilization provided opportunities for military exercises and unit training. In a major East-West crisis, however, the Soviet leadership would face an unattractive tradeoff if it wished to redress the qualitative deficiencies of its reserve forces. Premature mobilization of Warsaw Pact forces in order to provide training opportunities would offer strategic warning to NATO and probably would further destabilize the political and military situation.

Although the military may be dissatisfied with the preparation of its reservists, legal and economic

factors limit additional reserve call-ups during peacetime. The 1967 law sets a maximum period of training for each age group and prior service category (see discussion on page 6), beyond which a reservist may not be called to active duty. Some reports indicate that these limits are extended in certain circumstances, but there is no evidence to suggest that the government deliberately exceeds the limits of the law.

On the contrary, it appears to observe the legal framework in some surprising circumstances. On 16 August 1968 the military reportedly released from active duty a contingent of reservists that had been mobilized on 7 May for the Czechoslovak contingency and had reached the legal limit for a peacetime callup. These reservists were replaced by an older contingent that had not had the training benefit of the previous three months of active duty. Even though the second group of reservists was less combat ready and the invasion of Czechoslovakia was imminent, the legal requirement was met.

For most reservists, in fact, the evidence indicates that the amount of training received does not approach the limits of the law. The requirements of the Soviet economy may be the primary constraint to more consistent compliance with the law--and to more frequent reserve training on a comprehensive scale.

Three adverse consequences for the economy would be risked in the call-up of large numbers of reservists. First, the withdrawal of labor from industrial and agricultural production would lead to diminished output. Second, mobilization of civilian transport units, including drivers and vehicles, would reduce the ability of the transportation sector to move essential raw materials and finished products. Third, the productivity of enterprises supplying reservists would decrease because they would lose manpower while still being required to pay reservists' salaries.

The mobilization of large numbers of reservists in the past, most notably during the 1968 intervention in Czechoslovakia, exacted heavy economic costs. The Soviet government is unlikely to assume such costs

without compelling strategic reasons. Thus, as the evidence suggests, reserve training is kept to the minimum level consistent with the mobilization assignments of reservists.