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## Geographical study of population growth rate and sex ratio of scheduled tribes in Shirpur tahsil

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### Abstract

The educational level of the population is the main determinant of the country's growth rate and overall development. The level of education in a society not only reflects the knowledge and skills of its citizens but influences various aspects of economic, social, and environmental progress. Therefore, understanding the relationship between education and growth rates is essential for policymakers, economists, and researchers. Education levels are usually measured by indicators such as literacy rates, school enrolment rates, and the percentage of the population with various levels of formal education such as primary, secondary, or tertiary education. These metrics provide insight into a society's human capital, which is an important resource for economic productivity and innovation. The relationship between educational levels and growth rates can be explored from several angles. Human capital development, productivity, income inequality, demographic transition, Innovation and Technology, Health and Welfare, etc.

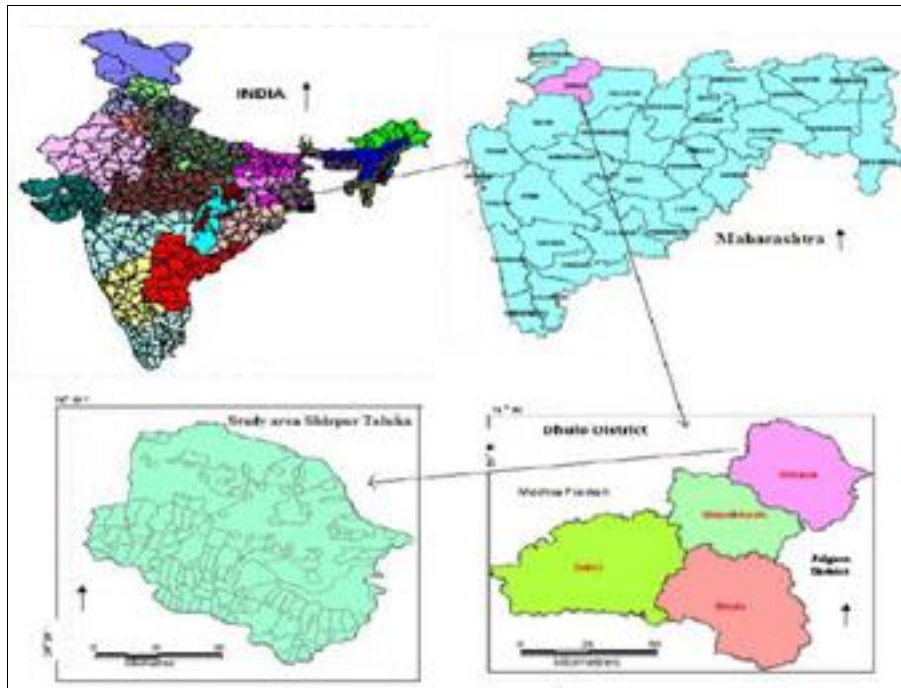
**Keywords:** Population growth, growth rate, sex ratio, enrolment of ST students

### Introduction

The educational level of the population is the main determinant of the country's growth rate and overall development. The level of education in a society not only reflects the knowledge and skills of its citizens but influences various aspects of economic, social, and environmental progress. Therefore, understanding the relationship between education and growth rates is essential for policymakers, economists, and researchers. Education levels are usually measured by indicators such as literacy rates, school enrolment rates, and the percentage of the population with various levels of formal education such as primary, secondary, or tertiary education. These metrics provide insight into a society's human capital, an important resource for economic productivity and innovation. The relationship between educational levels and growth rates can be explored from several angles. Human capital development, productivity, income inequality, demographic transition, Innovation and Technology, Health and Welfare, etc. By examining the mechanisms by which education affects economic, social, and environmental dimensions of development, we will delve deeper into the complex relationship between education levels and growth rates. By doing so, the importance of investing in education as a catalyst for sustainable growth and overall social well-being can be more widely understood. How are the population growth rate of the scheduled tribe in Shirpur taluka and the variation in the sex ratio of boys and girls at different educational levels from 2005 to 2022? Shirpur taluka is one of the four talukas of Dhule district with various characteristics. It is a half-tribal taluka at the foothills of Satpura Mountain. The proportion of tribal boys and girls in different educational levels in Shirpur taluka is low and their growth rate is also varied.

### Study area

Shirpur tehsil is located in the northeastern corner of the Dhule district. It extends between 21° 11' to 21°38' north latitude and 74°41' to 75°11' east longitude. Shirpur Tahsil covers an area of 1510.67 sq. km., which is 20.99% of the geographical area of Dhule district.



**Objective**

- To find out the enrolment of ST students in Shirpur Tahsil.
- To find out the sex ratio of the enrolment of ST Students in Shirpur Tahsil.
- To discuss the growth rate of the population in Shirpur Tahsil.

of proposed research work. Secondary data was collected from District Social and Economic Commentary - District - Dhule 2005 to 2022 and census 1991, 2001, and 2011. Essential data related to population aspects was collected from the census report. After the collection of data researcher manipulated them formatted them in tables and graphs and interpreted them. The analytical method was used for the proposed research work.

**Research Methodology:** Secondary data used for analysis

**Table 1:** Population growth rate circlewise 1991-2011

Year	Circle							
	Shirpur	Sangavi	Boradi	Arthe	Javkheda	Holnanthe	Thalner	Region
Total population 1991	22281	54174	54033	39727	NA	35264	24933	230412
Total ST population 1991	5511	37624	35560	10576	NA	6810	5245	101326
Total Population 2001	19459	62980	66046	27992	30139	40925	27742	275283
Total ST population 2001	5241	44665	49806	7058	10521	9895	5549	132735
Total population 2011	24437	86907	87068	32046	35690	46121	32963	345232
Total ST population 2011	7135	66305	70988	10292	16017	13352	11457	195546
Total population 1991	-	-	-	-	-	-	-	-
Total ST population 1991	-	-	-	-	-	-	-	-
Total Population 2001	-12.67	16.26	22.23	-29.54	NA	16.05	11.27	19.47
Total ST population 2001	-4.90	18.71	40.06	-33.26	NA	45.30	5.80	31.00
Total population 2011	25.58	37.99	31.83	14.48	18.42	12.70	18.82	25.41
Total ST population 2011	36.14	48.45	42.53	45.82	52.24	34.94	106.47	47.32

**Source:** Computed by Researcher

According to the 2001 census, the total decennial population growth rate in Boradi Circle is 22.23 and the ST population growth rate is 40.06, in Thalner Circle it is 16.27 and the ST population growth rate is 5.80, in Sangvi Circle it is 16.26 and the ST population growth rate is 18.71, in Holnanthe Circle it is 16.05 ST population growth rate is 45.30, in Shirpur circle it is -12.54 and ST population growth rate is -4.90, in Arthe circle it is -29.26 and ST population growth rate is -33.26.

According to the 2011 census, the total decennial population

growth rate in Sangvi Circle is 37.99, and the ST population growth rate is 48.45, similarly in the Boradi Circle 31.83 and the ST population growth rate is 42.53, in the Shirpur Circle it is 25.58 and the ST population growth rate. The growth rate is 36.14, in Thalner Circle it is 18.82 and the ST population growth rate is 106.47, in Javkheda Circle it is 18.42 and the ST population growth rate is 52.24, in the Arthe Circle it is 14.47 and the ST population growth rate 45.82, and in Holnanthe circle it is 12.70 and ST population growth rate is 34.94.

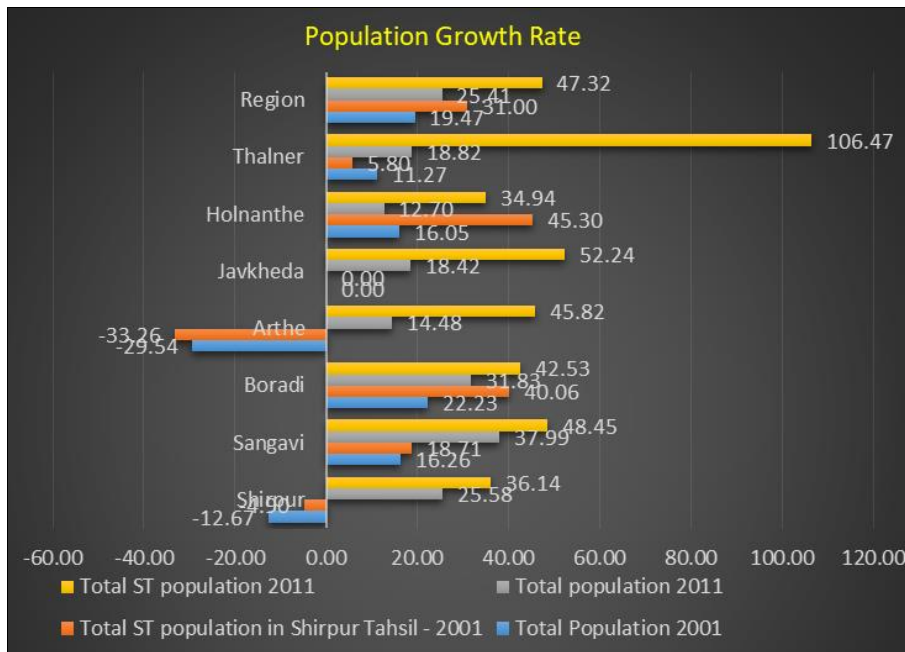


Fig 1: Circle wise population growth rate 1991-2011

Table 2: Proportion in Education of ST Student 2005-22

Year	Primary			Secondary			High Secondary			College		
	Total	Boy's	Girl's	Total	Boy's	Girl's	Total	Boy's	Girl's	Total	Boy's	Girl's
2005-06	16605	8843	7762	5482	3335	2147	3329	1794	1535	258	188	70
2006-07	16605	8843	7762	5482	3335	2147	3329	1794	1535	NA	NA	NA
2008-09	15202	8157	7045	7662	4292	3370	2933	1804	1129	485	341	144
2009-10	20937	11154	9783	7212	3863	3349	1150	715	435	NA	NA	NA
2010-11	21860	11561	10299	4073	3859	214	920	704	216	460	390	70
2011-12	20586	10887	9699	3948	3736	212	787	602	185	795	582	213
2012-13	19690	9978	9712	6616	3589	3027	4968	2772	2196	NA	NA	NA
2014-15	23049	12119	10930	8298	4527	3771	6784	3803	2981	1080	723	357
2016-17	20474	10319	10155	8663	4548	4115	7180	3938	3242	1214	768	446
2021-22	23222	11650	11572	11229	5759	5470	9032	4758	4274	1125	732	393

Source: Computed by Researcher

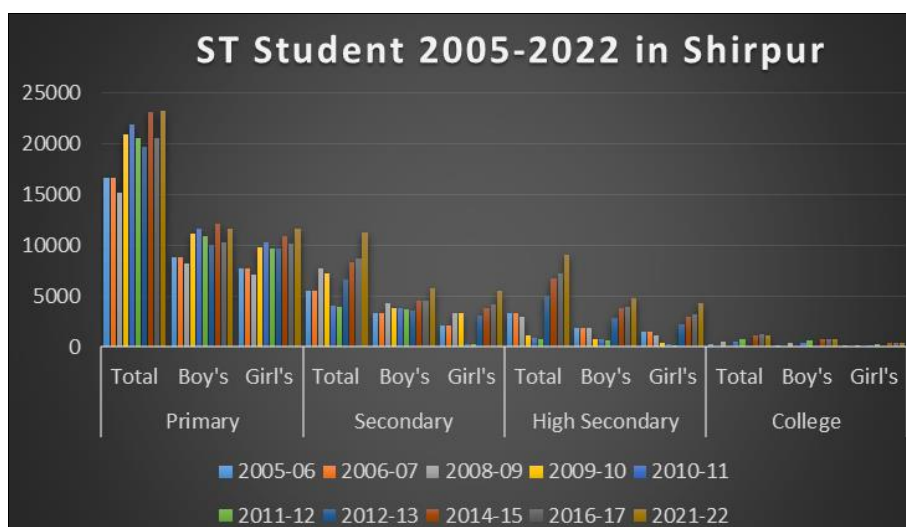


Fig 2: Proportion in higher education of ST Student 2005-22

**Girls-Boys Proportion in Primary Education of ST Student**

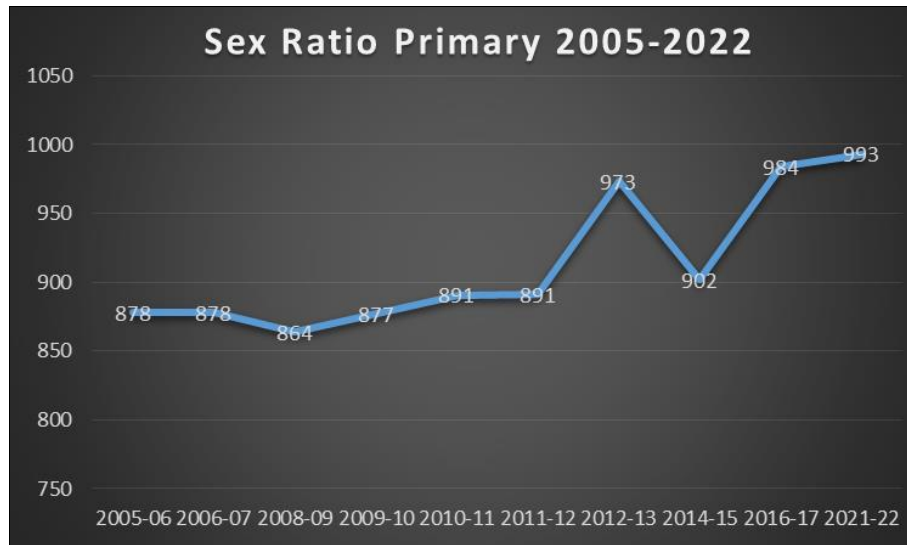
The sex ratio of ST boys and girls in primary schools in Shirpur taluka from the academic year 2005 to 2022 is shown below. In both the years 2005-06 and 2006-07 the sex ratio is 878, in the year 2008-09 the sex ratio is 864, in

the year 2009-10 the sex ratio is 877, in the years 2010-11, and 2011-12 the sex ratio is 891, in the year 2012-13 the sex ratio is 973, In the year 2014-15 the sex ratio is 902, in the year 2016-17 the sex ratio is 984, and in the year 2021-022 the sex ratio is 993.

**Table 3:** Proportion in primary education of ST Student

Year	Primary		
	Boy's	Girl's	Sex Ratio
2005-06	8843	7762	878
2006-07	8843	7762	878
2008-09	8157	7045	864
2009-10	11154	9783	877
2010-11	11561	10299	891
2011-12	10887	9699	891
2012-13	9978	9712	973
2014-15	12119	10930	902
2016-17	10319	10155	984
2021-22	11650	11572	993

Source: Computed by Researcher



**Fig 3:** Proportion in primary education of ST student

**Girls-Boys Proportion in Secondary Education of ST Student**

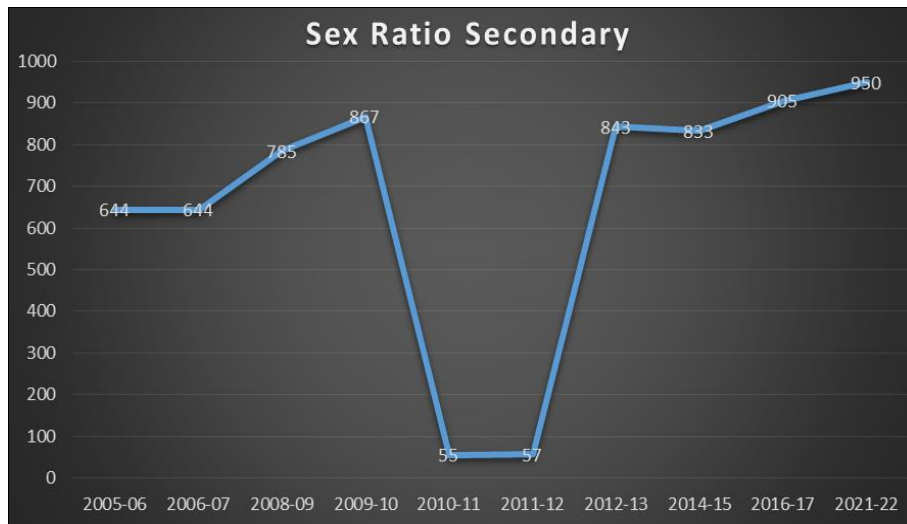
The sex ratio of ST boys and girls in secondary school in Shirpur Tahsil from the academic year 2005 to 2022 is shown below. Sex ratio 644 in both 2005-06 and 2006-07,

Sex ratio 785 in 2008-09, Sex ratio 867 in 2009-10, Sex ratio 55 and 57 in 2010-11 and 2011-12, Sex ratio in 2012-13 843, sex ratio in 2014-15 is 833, sex ratio in 2016-17 is 905, and sex ratio is 950 in 2021-22.

**Table 4:** Proportion in secondary education of ST Student

Year	Secondary		
	Boy's	Girl's	Sex Ratio
2005-06	3335	2147	644
2006-07	3335	2147	644
2008-09	4292	3370	785
2009-10	3863	3349	867
2010-11	3859	214	55
2011-12	3736	212	57
2012-13	3589	3027	843
2014-15	4527	3771	833
2016-17	4548	4115	905
2021-22	5759	5470	950

Source: Computed by researcher



**Fig 4:** Proportion in secondary education of ST student

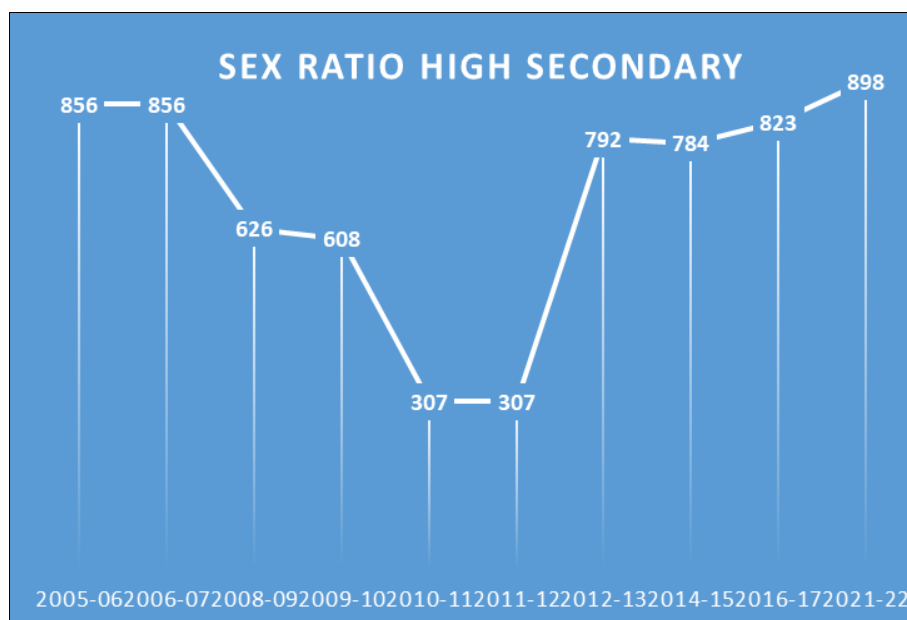
**Girls-Boys Proportion in Higher Secondary education of ST Student**

The sex ratio of ST boys and girls in higher secondary schools in Shirpur taluk from the academic year 2005 to 2022 is shown below. In both the years 2005-06 and 2006-07 the sex ratio was 856, in the year 2008-09 the sex ratio

was 626, in the year 2009-10 the sex ratio was 608, in the years 2010-11 and 2011-12 the sex ratio was 307, in the year 2012-13 the sex ratio was 792, In 2014-15 the sex ratio is 784, in 2016-17 the sex ratio is 823, and in 2021-2022 the sex ratio is 898.

**Table 5:** Proportion in high secondary education of ST student

Year	High Secondary		
	Boy's	Girl's	Sex Ratio
2005-06	1794	1535	856
2006-07	1794	1535	856
2008-09	1804	1129	626
2009-10	715	435	608
2010-11	704	216	307
2011-12	602	185	307
2012-13	2772	2196	792
2014-15	3803	2981	784
2016-17	3938	3242	823
2021-22	4758	4274	898



Source: Computed by researcher

**Fig 5:** Proportion in high secondary education of ST student

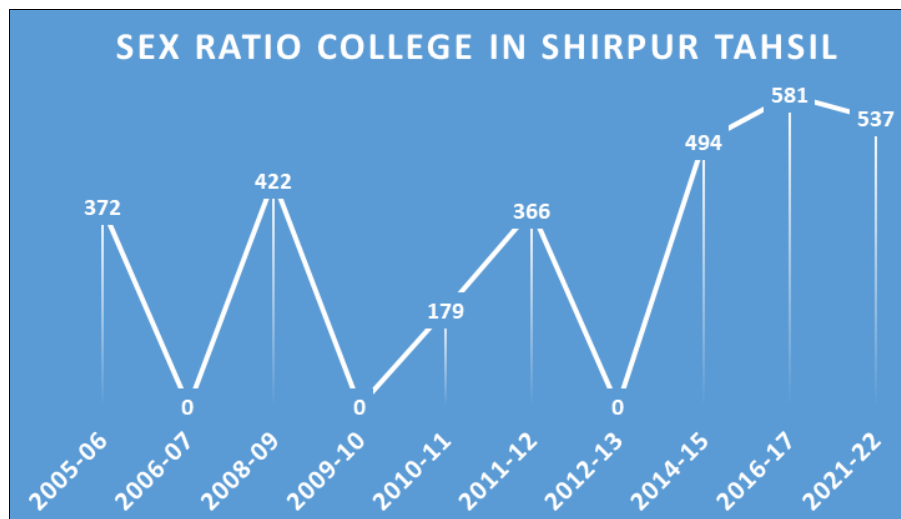
**Girls-Boys Proportion in Higher Education of ST Student**

The sex ratio of ST boys and girls in college in Shirpur taluka from the academic year 2005 to 2022 is shown below. 2005-06 sex ratio 372, 2006-07, 2009-10 and 2012-

13 data not available, 2008-09 sex ratio 422, 2010-11 sex ratio 179, 2011-12 sex ratio 366, 2012-13 The sex ratio in the year is 792, in the year 2014-15 the sex ratio is 494, in the year 2016-17 the sex ratio is 581, and in the year 2021-022 the sex ratio is 537.

**Table 6:** Proportion in higher education of ST student

Year	College		
	Boy's	Girl's	Sex Ratio
2005-06	188	70	372
2006-07	0	0	0
2008-09	341	144	422
2009-10	0	0	0
2010-11	390	70	179
2011-12	582	213	366
2012-13	0	0	0
2014-15	723	357	494
2016-17	768	446	581
2021-22	732	393	537



Source: Computed by researcher

**Fig 6:** Proportion in higher education of ST student

**Conclusion**

According to 2001, the population growth rate of Shirpur tahsil is 19.47, the population growth rate of the Scheduled Tribe is only 31.00 and the highest population growth rate in the circle is 22.23 in Boradi Circle, while the population growth rate of the Scheduled Tribe is 45.30 in Holnanthe Circle. Below 40.06 is seen from Boradi Circle. The population growth rate is lowest i.e. -29.54 in Arthe circle, and the population growth rate of Scheduled Tribe is also seen in Arthe circle at -33.26. After this it is -12.67 in Shirpur Circle and Scheduled Tribe population growth rate is -4.90 also seen in Shirpur Circle.

According to 2011, the population growth rate of the whole tahsil in Shirpur tahsil is 25.41 and only the population growth rate of the Scheduled Tribe is 47.32 and the highest population growth rate in the circle is 37.99 in Boradi Circle, while the population growth rate of Scheduled Tribe is 106.47 in Thalner Circle. Comes the lowest population growth rate is 12.70 in Holnanthe Circle and the Scheduled Tribe population growth rate is 34.90 also observed in Holnanthe Circle. This is followed by 14.48 in Arthe Circle and 36.14 in Scheduled Tribe population growth rate in Shirpur Circle.

The sex ratio of Schedule Tribe students attending

secondary school is 55 in 2010-11, 57 in 2011-12, 905 in 2016-17, and 950 in 2021-22. The sex ratio of Schedule Tribe students attending primary school is 864 in 2008-09, 973 in 2012-13, 902 in 2014-15, 984 in 2016-17 and 993 in 2021-22. The sex ratio of Schedule Tribe students attending higher secondary school is 856 in 2005-06 and 2006-07, 307 in 2010-11, and 2011-12 and 898 in 2021-22. The sex ratio of Schedule Tribe students attending college is 0 in 2006-07, 2009-10 2012-13, 179 in 2010-11, 581 in 2016-17, and 537 in 2021-22.

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